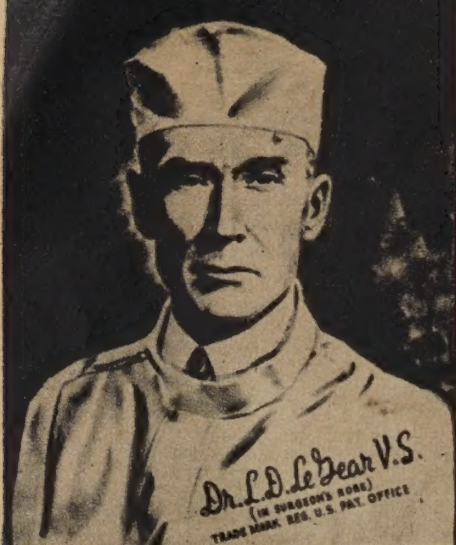


DR. LE GEAR'S
POULTRY GUIDE
to Year 'Round Success

PRICE
25c

DR. L. D. LE GEAR MEDICINE CO. ST. LOUIS 16, MO. U. S. A.



Dr. L. D. LeGear, V. S.

A PIONEER in live stock and poultry care, and a nationally known veterinarian and poultry expert. Gained veterinary degree from Ontario Veterinary College in Toronto, Canada, and devoted over half a century to the practical prevention and treatment of diseases affecting poultry and domestic animals. Countless poultry raisers have "Looked to Dr. LeGear" for reliable assistance.

CARRYING ON DR. LEGEAR'S HIGH IDEALS OF SERVICE

Long, conscientious study and much practical experience qualify the Dr. L. D. LeGear Medicine Co. to recognize poultry conditions and needs, and to develop Prescriptions, proven by actual farm use, to meet those needs — thus saving poultry raisers untold losses in production and stock.



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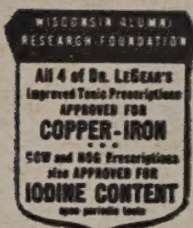


The Dr. L. D. LeGear Medicine Company, Saint Louis, Missouri . . . covering more than four acres of space, with modern equipment and a manufacturing capacity second to none in the industry. This is one of the largest and best equipped plants in the world for the manufacture of Prescriptions for Poultry, Live Stock, and Dogs.

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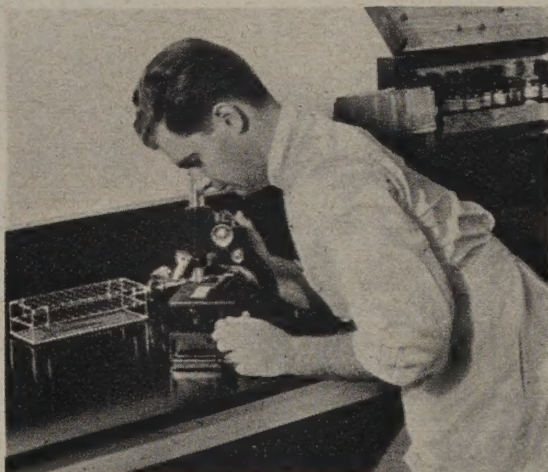
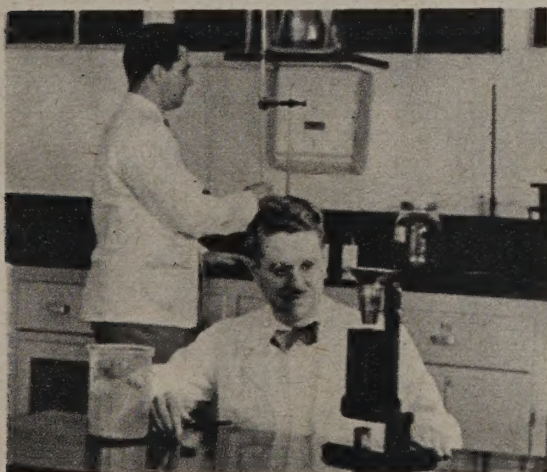
For More Than 50 Years The DR. LEGEAR ORGANIZATION Has Faithfully Served Poultry Raisers

Through the years, Dr. LeGear and his poultry experts and veterinarians responsible for the formulation and unfailing high quality of Dr. LeGear Prescriptions have dedicated their training, talents, and practical experience to the prevention and treatment of diseases affecting poultry and domestic animals. They know the symptoms, conditions, and needs confronting you as a poultry raiser, and are glad to have the opportunity to help you in your efforts to get good egg production, increase fertility, prevent losses and slow-downs, and increase profits—with tested prescriptions best adapted to particular ailments and uses, and containing the most effective ingredients known to modern veterinary science.



The Dr. L. D. LeGear Medicine Company has been licensed by the Wisconsin Alumni Research Foundation for the use of the Hart Copper-Iron Patent in all of Dr. LeGear's Tonic Prescriptions, and its Iodine-Stabilization Patent in Dr. LeGear's Cow and Hog Prescriptions as well.

There is no place for guess-work at any stage in the manufacture of Dr. LeGear's Prescriptions. Exhaustive tests in the Laboratory and under actual farm conditions, checking and re-checking such as pictured below, are back of every formula. Each product is *proved* conclusively before it is offered on the market in the familiar package bearing the Trade Mark "Dr. LeGear in Surgeon's Robe". No product bearing the Dr. LeGear name can be anything but the best for the purpose intended. That pledge is backed by a **GUARANTEE OF COMPLETE SATISFACTION OR YOUR MONEY BACK.**



**QUALITY CONTROL . . . EVERY STEP OF THE WAY
IN DR. LEGEAR'S MODERN LABORATORIES**



Sanitation

HELPS PREVENT POULTRY DISEASES

Sanitation is nothing more nor less than cleanliness. By cleanliness is meant not merely the removal of visible dirt, but also the removal of those invisible forms of life known as bacteria or germs, and of parasites such as lice, mites, vermin, etc.

Since disease is responsible for a great portion of the losses and disappointments of poultry raising and a great percentage of all poultry diseases are due to improper sanitation, this subject is naturally very important.

The average farmer or poultry raiser fails to give enough thought to poultry diseases until they strike his flock. Careful attention to sanitation will often entirely prevent disease occurrence, and will always tend to prevent the spread of disease and make its control easier.

Following is an outline of sanitation which, if adapted to your particular conditions and practiced rigidly, will do much to make your poultry enterprise a success.

ORDINARY SANITATION as outlined below should be observed regularly to help keep poultry flocks healthy and prevent the occurrence of disease:

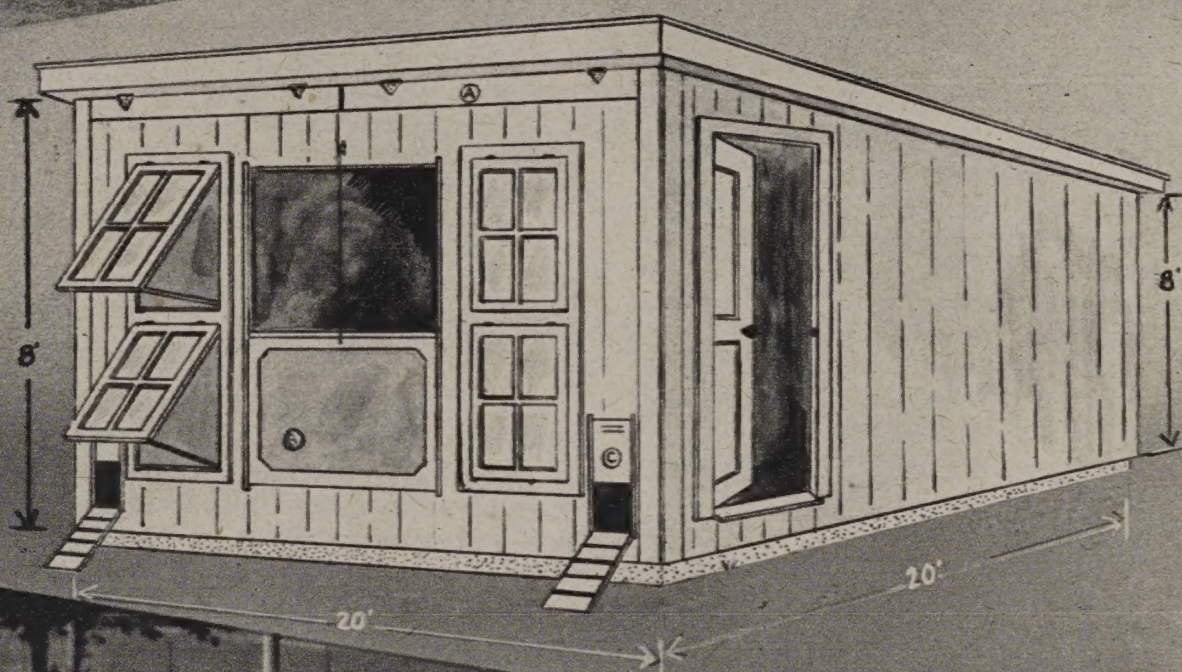
1. Keep flock in as small groups as practical; never mix age groups.
2. Have houses and runs on dry, well-drained land, where they will receive plenty of sunshine.
3. Clean houses and runs regularly. Keep them brushed out, free of cobwebs and loose dirt. Do not keep any unnecessary equipment in houses.
4. Change litter every two or three weeks, or as often as it becomes dirty or damp.
5. Have ample ventilation to

keep air fresh and to carry off stale air and moisture.

6. Keep feeding and drinking vessels clean, and change drinking water often, to keep it fresh.
7. Clean up droppings regularly, and paint roosts, dropping boards, nests, etc., with Dr. LeGear's Dip and Disinfectant full strength. The rest of the house and premises should be liberally sprayed with a strong solution of Dr. LeGear's Dip and Disinfectant.
8. Do not overcrowd flocks; this is particularly dangerous with young birds.
9. Change the range every year, if possible, and lime, plow, and plant unused ground.

WHEN DISEASE STRIKES extra precautions are necessary, since control of any disease is dependent to a great extent on the sanitary measures taken. To help check the spread of disease throughout your flock, add this list to the measures already in use:

1. Segregate the well birds from the sick; whenever possible move the well birds to clean quarters.
2. Burn or bury deeply all dead birds, and also droppings and other debris from infected poultry houses.
3. Clean up droppings daily. This is important.
4. Change litter once a week or oftener.
5. Change water three times daily, at least, to keep it always clean and fresh. If there is diarrhea present add Dr. LeGear's A-A Poultry Tabs to all the drinking water according to directions.
6. Watch flock carefully, and remove any new birds showing signs of disease.



● Birds housed in good quarters do not require extra feed merely to maintain normal body conditions. Good housing is directly related to healthy, efficient poultry. A good poultry house site is very important. Consider such factors as air circulation, water drainage, shade, shelter, fire hazards, convenience, and cost of construction.

Poultry House

CONSTRUCTION AND ARRANGEMENT

A poultry house must be dry, properly ventilated without drafts, and admitting sufficient sunlight; must be durable, convenient, and economical to construct. Any house meeting these requirements is almost sure to be a satisfactory poultry house.

The most important consideration in housing is to secure good circulation of air, without drafts. So many of the impurities of the fowl are carried off in the breath that it is of vital importance that plenty of fresh, clean air be provided.

Fowls are provided with feathers as a protection from severe weather, so care must be taken not to have the house too warm.

A splendid location for a poultry house is on a southern slope, not too steep. The best soil is a dry, porous, sandy loam or gravel covered with sod. Plenty of shade is important. Surface water should be drained away from the poultry house. The floor should be built so that no water can drain from outside into the house.

The ideal poultry house is the one-way shed roof, open front type, facing South, that admits plenty of sunshine and plenty of fresh air at all times without drafts. It should be 20 feet deep from north to south, and as long as necessary to accommodate the flock. A house 20 feet by 20 feet is a nice size for an ordinary small farm flock. It will comfortably house 100 hens of the larger breeds, or 135 Leghorns, in all cold and moderate climates; in warmer climates 25 per cent more can be housed without crowding. This is due to the fact that the fowls do not have to be housed many days during the winter in the warmer sections of

the United States. It is a mistake to crowd chickens into a house, as they should have plenty of room at all times.

Every poultry house should have a floor, either concrete or wood. It is impossible to keep a dirt floor clean and sanitary. A concrete floor is rat proof, draft proof, and can be kept clean and sanitary. If the top is well above the surrounding ground level, and if laid on cinders or coarse gravel, it will be dry. A poorly constructed, damp concrete floor is, however, a source of constant trouble. The floor should be sloping a little to the front, so that any water will run to the front and out.

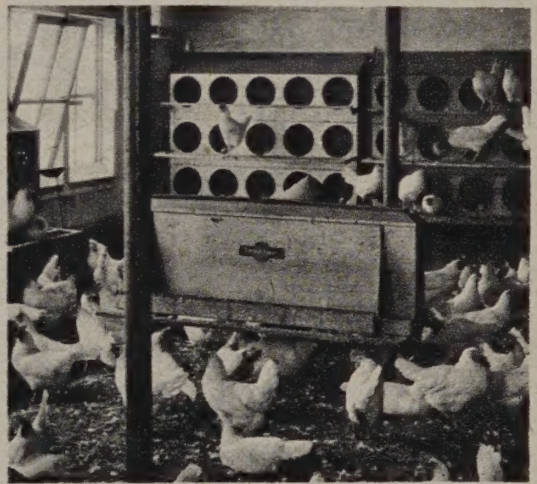
A good roof is very essential, as the poultry house must be kept dry if the fowls are to be kept healthy. The usual material used for shed roofs is either roofing paper on boards or galvanized iron. The latter is usually the most durable, but is also very hot during hot weather if the roof is not high. A straw loft or a ceiling under the rafters will make the house a great deal cooler in summer and also warmer in winter. Do not have the roof too low, especially in warm climates, nor too high, especially in the North. Inside there should be 6 feet clearance space in the rear, and 8 feet in the front.

The front of the house should be boarded up solid for three feet above the floor, and all openings should be above this to admit plenty of sunshine in the winter time. There should be a trap door 10 to 12 inches wide along the north wall just under the roof, that should be opened during hot weather for coolness at night; during fall, winter, and spring the

north, east, and west walls should be as nearly airtight as they can be made. In a long house there should be a solid partition from the back almost to the front every 30 or 35 feet, to prevent drafts sweeping from one end of the house to the other over the birds.

In the southern states the front should be left almost entirely open at all times. In the North while the weather is cold most of the front should be closed for the protection of the fowls. In the northern states quite a portion of the front can be covered with glass or glass substitutes to admit light and sunshine, and sufficient air for ventilation can be had through openings that are covered with thin muslin or cheese-cloth curtains during cold weather. These curtains should be

swept with a soft broom every few days to keep them clean. In climates similar to Missouri the openings in the front should equal about 10 per cent of the floor area of the house, and these openings should be left open at all times except in extremely cold weather or while storming from the south, when the curtains can be pulled down. These openings are all the ventilation a poultry house of this type needs. The larger the permanent openings in the front are, the healthier the fowls will be, as long as they do not freeze their combs and toes. By having the roosts along the north wall there will be no drafts at night if the north, east, and west walls are closed tight, even if the south is open.



Equipment OF THE PROPER KIND MAKES FOR POULTRY SUCCESS

ROOSTS should always be placed along the back of the house away from front openings. They should be on the same level, and should be placed 6 to 8 inches above the dropping boards (see Fig. A). Two inch poultry netting fastened underneath the roosts will keep hens off the dropping boards, prevent dirty feet and soiled eggs, and also prevent the spreading of disease. The first roost should be about 12 inches from the back wall and the others 15 inches

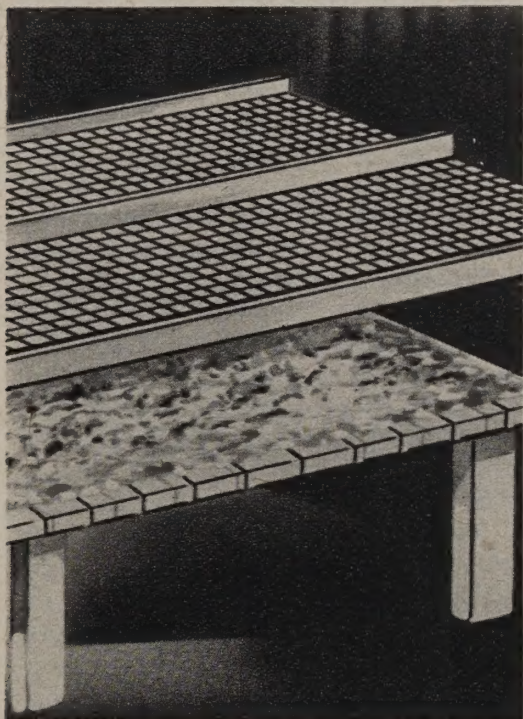


Fig. A — DROPPING BOARD

apart. Allow 7 to 10 inches roosting space for each bird, according to size. Two-by-two or two-by-four scantling, with the upper edges rounded off, makes very good roosts. Each set of two, three, or four roosts can be nailed to cross pieces of two-by-four, making a solid frame. Then the frames can be hinged against the wall so they can be raised for convenience in cleaning. Attach two short pieces of two-by-four, 6 inches long, on the front of the frame so they will rest on the

dropping boards, or hang the roosts on chains or wires. On long roosts put another cross piece and another leg in the center.

DROPPING BOARDS should be placed under roosts to keep floors as clean and sanitary as possible. They are built two and one-half to three feet above the floor, along the back wall of the house, and 3 to 5 feet deep, depending on the number of roosts. Dressed tongue-and-groove lumber should be used, and the boards should run from front to back, to make them easy to clean. The droppings should be removed daily. The droppings or any other refuse from the poultry house should never be scattered on the lots or runs where the fowls are kept.

NESTS should never be directly on the floor. They are best placed along the walls, on a platform about 2 feet from the floor, which is high enough to prevent egg eating. Provide a place on this platform for the hens to jump on before entering the nests. All

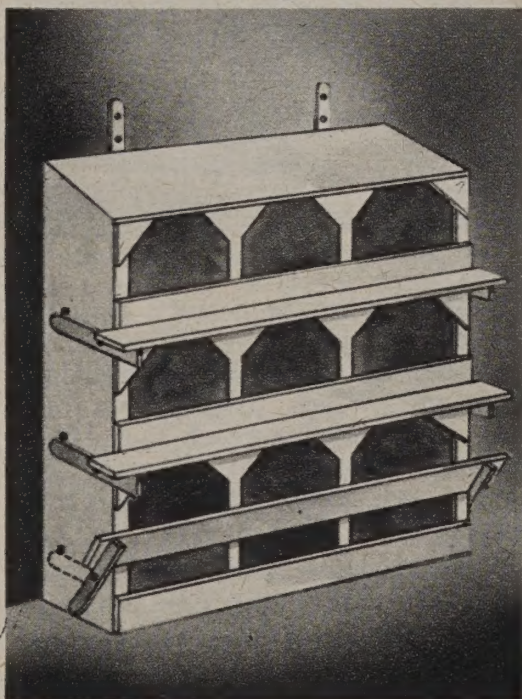


Fig. B — POPULAR TYPE OF NEST

nests should be in a dark place.

Nests along the wall should have a slanting top to keep the hens from roosting on them at night. Nests should be a foot square for heavy breeds, and they can be somewhat shallower for the lighter breeds.

Either end of the house or the partition walls will do as locations for the nests. Dry, clean, soft material, such as straw, hay, excelsior, leaves, etc., may be used for nest material, but the nests should be cleaned out often and filled with fresh material. There should be one nest for each 5 or 6 hens.

Manufacturers of poultry supplies make nests of wire, tin, or galvanized iron. These are usually excellent.

TRAP NESTS are nests equipped for holding a hen captive after her entrance, until released by an attendant. Trap nests are used to furnish definite knowledge as to laying ability, also to help in making pedigree and contest records. While using the trap nest each hen must be banded with some identifying mark or number.

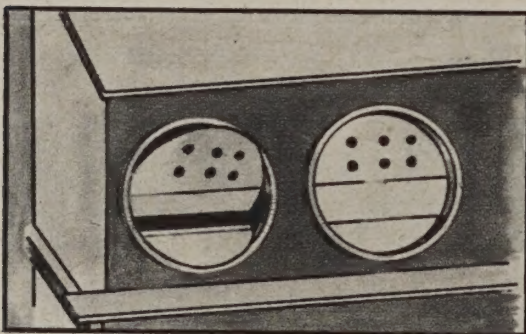


Fig. C — TRAP NEST

Trap nesting is a very important feature in big egg plants, and is used by specialty exhibition breeders. When trap nests are used they require much more frequent attention to release the hens, and more nests are required.

A good trap nest should embody the following points:

1. Accuracy; it must catch each hen and allow none to escape. Also, it must not allow

more than one hen on the nest at a time.

2. Easy and quick to operate.
3. Easily and cheaply constructed.
4. Easy to clean.
5. Safe, so birds or operators cannot injure themselves.
6. Sufficient ventilation in warm weather to prevent the birds from suffocating.

Good trap nests can be bought from poultry supply houses.

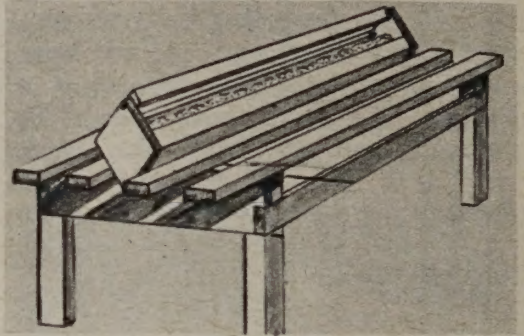


Fig. D — POULTRY FEEDER

FEED HOPPERS are necessary for feeding mashes, charcoal, grit, and oyster shell. Recently many poultry raisers have found that feeding grain from hoppers also has many advantages. They can be made, or purchased at any poultry supply house. One foot of hopper space is sufficient for 6 hens. There should be some sort of protection for the feed so the fowls can reach it easily but cannot roost over it or get their feet in it. All feeding troughs and watering vessels should be up off the ground or floor, on platforms or racks, so the chickens cannot scratch litter or dirt into them. (See Fig. D).

WATERING DEVICES are important. Eggs are made up of a large percentage of water, and you cannot expect eggs unless you keep fresh water within reach of the hens at all times. No matter what kind of watering device you use, it is necessary to see that fresh water is supplied at least twice a day, and that the fountain, jar, or bucket is kept perfectly clean. Filth in the drinking water may cause disease in your flock.

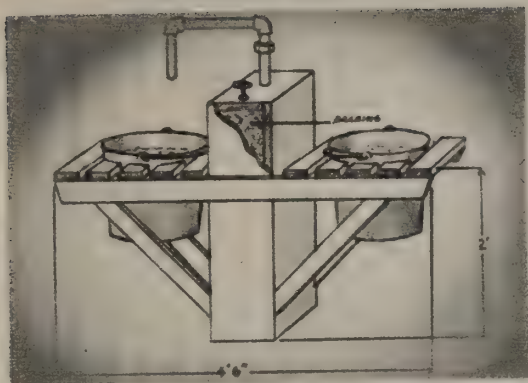


Fig. E — WATERING DEVICE

There are several practical styles of watering equipment which are satisfactory. Drinking vessels should be made of tin, galvanized iron, glass or crockery. A wooden vessel or trough is not easily cleaned or sterilized, therefore should not be used for either water or milk. Excellent sanitary drinking fountains can be bought from any dealer handling poultry supplies.



Fig. F — POULTRY SHELTER

SHADES AND SHELTERS should be provided, either by planting trees and shrubs or constructing some kind of shelter, unless your poultry yard affords an abundance of shade. You can provide summer comfort for your fowls by having houses built up on posts. On hot summer days the birds will always be found under the houses where it is cooler than anywhere else. Shades or shelters may be solid or constructed of canvas or burlap stretched over poles, etc.

WHITEWASH is not used about poultry houses as much as it should be. Its use denotes cleanliness. It is well to apply it to poultry houses twice each year, and put it on hot. Two or three ounces of Dr. LeGear's Dip and Disinfectant mixed with each gallon of whitewash will kill mites and certain other insects where it is applied. It also effectively destroys many disease germs and is helpful in disinfecting the poultry house. It may be applied either with a brush or a spray pump. By the use of a spray pump the



Fig. G — APPLYING WHITEWASH

solution can be forced into all cracks and crevices and hiding places of mites and many of the insects and vermin that infest poultry houses. Ordinary whitewash is made by dissolving slacked lime in water until a satisfactory consistency is obtained.

For more severe infestations of the poultry house with mites, blue bugs, and the like, or for control of these pests between whitewashings, . . . Dr. LeGear's Poultry House Insecticide is recommended. For this purpose the Poultry House Insecticide is diluted with an equal volume of kerosene and this solution is then sprayed thoroughly all over the interior of the house, especially into all cracks and crevices, according to directions. See page 36.



WHITE LEGHORN HEN

A dual-purpose bird, although its greatest popularity is due to heavy production of large, white eggs, preferred by many egg buyers.



WHITE PLYMOUTH ROCK HEN

A dual-purpose bird favored by many poultry raisers. Egg shells may vary from light to dark brown, depending on strain and stage of production.



WHITE WYANDOTTE HEN

The most popular of numerous varieties of Wyandottes. Medium in weight, and chosen for both meat and eggs. Eggs range from very light to rich brown, depending upon individual, strain, and stage of production.



BARRED PLYMOUTH ROCK HEN

Another breed popular with many. Raised mostly for meat production. A good egg producer also. Lays brown shelled eggs.



RHODE ISLAND RED HEN

Bred to withstand severe winters. A general purpose fowl for both meat and egg production. Egg shells range from brown to dark brown, favored in some markets.



NEW HAMPSHIRE HEN

Quite a hardy breed. Also does well in warm climates. Increasingly popular in past few years. Non-feathered shanks, red ear lobes. Lays brown-shelled eggs.

Selection of Breeds

AND GOOD BREEDING PRACTICES

Select the breed of chickens you like best, because you will give them better care and have more pride in your birds, and therefore get better results and more profits. In making your choice it is well to consider whether you want just egg production or both eggs and meat. If you are raising for the market, one of the heavier breeds should be selected. If eggs are to be the chief source of revenue determine whether your market desires white or brown eggs. Then select one of the smaller breeds known for laying.

It is also well to consider the room you have available, as some varieties stand confinement better than others. In any case, select a standard breed, because they are best and most profitable. Raise good, high quality stock. They cost no more to raise than scrubs, and will always sell for higher prices.

When buying stock insist upon their being good size, vigorous, healthy individuals. Any male or female lacking in health, vigor, or development is worthless, no matter how excellent in other ways. Therefore, insist upon good breeding in your birds, which will show in their color, shape, and size, and in good history as egg layers.

TURKEYS are making real gains as an important class of poultry. Within the past few years the turkey industry has been surging forward. Many states throughout the country are showing tremendous increases, both in turkeys raised and in turkey raisers.

Now that it has been definitely proved that turkeys raised on wire and in confinement will grow to greater size and be less susceptible to disease than those



on range, the number of turkeys in this country, and the quality of the turkeys, are reaching peak proportions.

Turkey is a type of fowl which has usually been reserved for the holiday seasons. Now, however, with improved methods of turkey husbandry and disease control, there is a better supply available, the demand is becoming less seasonal and the turkey market more steady.

Varieties of turkeys include: Bronze, Narragansett, White Holland, Black, Slate and Bourbon Red. All have good qualities and the choice may depend much on local demand and the owner's preference.

The most important factors to be kept in mind in raising turkeys are sanitation and constant care. This includes daily cleaning and scrubbing of dropping boards, or, if the birds are kept on wire runs, removing the droppings from beneath the wire. A strong solution of Dr. LeGear's Dip and Disinfectant should be used in scrubbing pens, dropping boards, roosts, nests, and so forth.

The flock must be carefully observed, so that if any sick turkeys are found they may immediately be segregated from the rest and a close watch maintained over the pens in order to check the spread of disease.

EGGS FOR HATCHING should be selected from parent stock that is mature, healthy, of good size, and properly fed and cared for. To incubate well they should be uniform in size, shape, and texture of shell, and gathered daily or oftener in severely cold weather. If not set at once they should be placed in cartons, egg cases, or racks, stored in an ordinary cellar, and turned every day. Eggs held over ten days should not be set. Do not wash eggs intended for incubation.

INCUBATORS should be the best obtainable, as it does not pay to buy inferior machines. Half the success or failure with incubators depends upon the operator. You should study the directions that come with your incubator, and then follow them carefully.

Thoroughly clean and disinfect your incubator after each hatch. Remove and wash all movable parts, such as the egg tray, nursery, etc., with a solution made by mixing 3 tablespoonfuls of Dr. LeGear's Dip and Disinfectant with a gallon of water. Then spray the whole inside of the machine thoroughly with the same solution. Put in the egg tray, nursery, etc., and shut up the machine and run the lamp until all parts are dry. If you wish to run the machine again put in another lot of eggs as soon as the temperature is regulated.

NATURAL INCUBATION. setting eggs under hens, will be better and cheaper where a small flock is kept and only a few chicks are hatched each year.

Select a quiet, gentle hen of good size that is at least one year old. Provide a comfortable nest in a quiet place. Give her a warm place in winter and a cool place in summer. Try to imitate nature by putting her nest on the ground, or put earth in the bottom of the box and cover it with fine straw or leaves. Have her nest quite dark, put one or two nest eggs in it, and put her on her new nest

at night. You may have to shut her on the nest the first day. If she remains on her new nest for two days it is then usually safe to put the eggs under her. You can put fifteen under a large hen; smaller hens should be given less. Keep water, grain, feed, and grit convenient where she can get them every time she comes off the nest. Dust hens when first set with Dr. LeGear's Lice Powder, and dust again about the seventeenth day. This kills the lice, and prevents the baby chicks from becoming infested as soon as they are hatched. Test the eggs by candling on the seventh or eighth day and again on the fourteenth to eighteenth day, and remove all infertile eggs and any containing dead embryos. Try to keep the hen on the nest until all the chicks are hatched, when she can be taken off and watered and fed.

Feed and water setters daily. Do not disturb hens while eggs are hatching.

TIME OF INCUBATION varies, as different kinds of poultry require different lengths of time to hatch their eggs. Fresh laid eggs, especially those with good, strong germs, will hatch several hours sooner than older eggs. Below is a partial list of the time it takes for eggs to hatch:

Chickens	21 days
Turkeys	28 days
Guinea Fowls	26-28 days
Ducks	28 days
Geese	28-32 days
Peafowls	28 days

POOR HATCHES may be due to many causes, such as eggs that are too old, low vitality of breeding stock, eggs from small pullets, faulty operation of incubators, chilling and overheating of eggs, grease on shells, and diseases. Manganese is essential to breeders, a lack of it resulting in eggs low in hatchability. Dr. LeGear's Poultry Prescription in all the mash feed given to breeders will supply ample amount of this valuable element.

Practical Tips

ON PROPER POULTRY MANAGEMENT

THE HEN AND HER BROOD need special attention. The hen may be confined in the brood coop at first, allowing the chicks to range in immediate vicinity of the coop. Every evening see that they are in their coop, because the hen and chicks should have protection at night.

ARTIFICIAL BROODING is often more satisfactory, since large numbers of birds can be brooded at one time.

Revolutionary changes in brooding practices in the past few years have made it possible to raise to maturity a much larger percentage of birds than was formerly possible. There are many kinds of brooders of varying capacities, operating on coal, oil, or electricity.

Brooders should be placed in well-constructed houses or rooms, easy to keep clean and with plenty of light and ventilation. The brooder should be operated strictly according to the directions of the manufacturer.

Before bringing in chicks, the room should be completely cleaned and disinfected with Dr. LeGear's Dip and Disinfectant according to directions, and the stove should be run for a couple of days to be sure that it is regulated properly and that the room is thoroughly dry.

The first day the hover should be placed about two inches above the litter and the temperature should be about 95 degrees F. This temperature should be gradually lowered, about 1 degree per day, until the chicks are feathered. The hover should be gradually raised as needed.

SEPARATION OF THE CHICKS as soon as the cockerels can be distinguished will promote the growth of the pullets. The sexes can be determined usually from

the third to the fourth month of age, depending upon the breed and individuals. Place the cockerels in a separate flock then, so they will not interfere with the pullets.

BROODY HENS cause considerable trouble during the summer months. A good method of breaking up a broody hen is to put her in a cage about two feet square with a slat or wire bottom, and hang the cage by a rope fastened to the center of the top of the cage from a limb of a tree in the shade. Whenever she moves the cage will move, which will keep her busy trying to stay level. Give her water, plenty of laying mash, with good grain and very little corn, and you can soon break up her broodiness.

ARTIFICIAL LIGHTING in the poultry house, or "working hens overtime" as it is sometimes called, is being used by poultrymen quite extensively and profitably. Accurate records show that to lengthen the hen's working day will in many cases increase her egg yield from 25 to 50 per cent, and give her more even distribution of production throughout the year. During the fall, winter, and spring, when the days are short, lights can be used in the laying houses in the mornings or evenings, to lengthen the day several hours. Four or five o'clock in the morning seems to be about the best time to turn on the lights, and leave them on until daylight. This will give about a thirteen hour day, which gives the hens more time to eat and digest food and causes them to lay more eggs.

Gas lights, electric lamps, or oil lamps may be used, but they should be large and bright to duplicate sunshine as nearly as

possible. Electric lights are preferable, and should be strung in a line over the feeding area.

MOLTING is the annual shedding of feathers by poultry, and it is a natural condition. It usually takes place in August or September, but may be earlier or may come considerably later. Some fowls will shed nearly all of their feathers at one time, and the new feathers will be grown in five or six weeks, while others molt more slowly and irregularly and are two or three months getting their complete new coat of feathers. Very few hens will lay while they are molting as it takes all of their strength to grow new feathers. During the molt fowls should have special care, attention, feed, and treatment, as this is the most trying time of the year for them. They should be protected from bad weather, hot sunshine, etc., and fed all the green feed and grain they will eat. Milk or some form of meat should be fed quite liberally. Hens that molt late are usually the best all year 'round layers.

Dr. LeGear's Poultry Prescription is of particular benefit to birds during the molt, furnishing additional mineral elements needed for new feathers as well as tonic properties to maintain good appetite for their feed. It is especially recommended that you add it to all of their feed at this time. Even though molting is perfectly natural, it usually throws the birds more or less out of condition.

CULLING THE FLOCK is of the greatest possible value. There is nothing more important to the poultry industry than the knowledge of how to cull out the poor layers and the weak birds that are untrue to the type of their breed.

The ability to cull out the right birds can often mean the difference between a really successful poultry enterprise and one that "just gets by." Due to the short

growth and production period of chickens, it is important to remove at an early age all those birds which do not conform to type or are of low vitality. All flocks should be culled regularly and strictly. Determine whether or not a hen is profitable before she eats a lot of expensive feed or transmits her poor laying ability to offspring who will also consume feed without results.

The art of culling would fill a book by itself, and therefore, obviously, cannot be taken up in detail here. It is most easily learned by practicing with someone who is an experienced and successful culler.

CAPONS are castrated roosters, that have had their main sexual glands removed by an operation called "caponizing."

Capons command the very highest market prices of any poultry meat, and there is a big demand for them. Cockerels are generally operated upon at from two to three months of age, and are at their best for the table at about ten to twelve months. To make capons is an excellent and profitable way to use your surplus cockerels.

The operation is very simple and can be done by anyone after a little practice. The larger breeds make the best capons, as they grow to be very large. A matured capon will weigh from ten to fourteen pounds. Complete instructions for performing this operation can best be obtained by writing the Superintendent of Documents, Washington, D. C., and requesting the Department of Agriculture bulletin on "Capons and Caponizing."

After the operation the capon grows rapidly and develops into a much larger bird than he otherwise would have been. Capons lose their courage and fighting characteristics and they will get along just as peacefully as a flock of hens. They develop fast, and the flesh is very tender, juicy, and sweet.

Good Feeding Practices

IN PROFITABLE POULTRY RAISING

Balancing rations for poultry is a specialized study in itself, and one which cannot be covered adequately in a limited space. However, there are some details with which every poultry raiser should be familiar. A ration should be selected that will meet the particular needs for which it is intended; that is, a starting ration for baby chicks, a growing ration for growing pullets, and a laying ration for hens in production. The ration should be composed of several different feedstuffs in proper combination, not just one kind of feed.

Today there are many properly balanced ready-mixed poultry feeds on the market, and the average poultry raiser will get better results and save money by using good, ready-mixed feeds where available than by attempting to mix his own feeds. If you can get ready-mixed poultry mashes and scratch feeds in your locality use them, as it will no doubt save you time and money.

However, if you prefer to mix your own feed or have it mixed for you according to your own formula, you can get excellent feed formulas from your own State Poultry Experiment Station. These are designed to suit the particular conditions met with in your own locality, and utilize many feeds which you yourself may raise.

STARTING BABY CHICKS properly depends to a large extent upon proper feeding. Get your chicks started eating properly and you are a long way on the road to raising them successfully.

Green feeds are a very important part of the chick's ration, and should be supplied in some form every day. For rapid growth and best results chicks must be fed some form of animal food,

such as milk or hard boiled eggs, for their protein content. Practically all of the vitamins are necessary for normal growth and health. Various vitamins are present naturally in different feedstuffs, so rations consisting of several ingredients that are properly balanced usually contain sufficient quantities of the vitamins.

POULTRY TONIC PRESCRIPTIONS are of value in many ways. Baby chicks as well as older birds are subject to various poultry diseases and parasitic infestations, which must be guarded against and treated promptly if they occur. One common aftermath that may remain after many diseases is more or less loss of appetite, and another is simple anemia. For birds recovering from sickness or parasites, Dr. LeGear's Poultry Prescription added to good feed can be very beneficial, by promoting their lagging appetites so they will eat heartily to gain back their health and strength. Furthermore, the valuable copper and iron content of Dr. LeGear's Poultry Prescription will be effective in overcoming any simple anemia with which their illness may have left them.

In the laying flock, hens must eat heartily to produce sufficient eggs. When feed consumption is too low, Dr. LeGear's Poultry Prescription as an appetizing tonic will usually be a profitable help to lagging appetites. All laying hens, and pullets in production too, need minerals; Dr. LeGear's Poultry Prescription contains valuable mineral elements to supplement deficiencies in the feed. Manganese is important for egg production, especially in pullets, and Dr. LeGear's Poultry Prescription contains all the manganese they may need.



Fig. H. Severe case of roup. Note extreme swelling of eye and dry discharge on nostril. See page 28.



Fig. K. Open intestine of adult bird, showing very heavy infestation of large round worms. See page 32.



Fig. I. Typical appearance of bird affected with fowl paralysis. See page 30.



Fig. L. Swollen and inflamed ceca (blind guts) taken from bird suffering from bloody coccidiosis. See page 34.



Fig. J. Baby chicks affected with Pullorum disease. Chick on right is near death. See page 19



Fig. M. USDA photo, Legs of a bird severely affected with scaly leg. See page 39.

Diseases of Poultry

THEIR SYMPTOMS AND CONTROL

Poultry are subject to numerous diseases, and there is nothing that will rob you of your poultry profits more quickly than disease. The time spent in reading about the causes, symptoms, and treatment of poultry diseases will prove to be a good investment.

Insanitary conditions probably rank first among the causes of disease. Impure drinking water, filthy houses with dirty nests and dropping boards, and dirty yards or ranges are all included in insanitary conditions, and usually give rise to the many diseases caused by germs. Other important causes are parasites, both internal and external, exposure to dampness and drafts, and improper feeds or feeding methods. Keeping birds of low vitality for breeding, such as undersize or weak hens, is also an important "indirect" or contributing cause of disease.

Turkeys suffer from almost all of the diseases of chickens, and the information on chicken diseases, as well as the treatments suggested, will apply generally. There are two main diseases which affect turkeys more seriously than they do chickens. These are Blackhead and Infectious Catarrhal Enteritis of turkeys.

PULLORUM DISEASE

Bacillary White Diarrhea—B.W.D.

Pullorum Disease is caused by a specific germ, known as *Salmonella pullorum*. It is transmitted through the egg, many chicks being hatched with the disease, by lack of proper incubator sanitation, and also by contamination of the feed and water spreading it from sick to healthy chicks.

It should be fully realized by

poultry raisers everywhere that Pullorum Disease is one of the worst diseases affecting baby chicks. Losses up to 50 per cent of the flock are common, and not infrequently 80 to 90 per cent of a hatch will be wiped out. Of those that survive many will retain the germs in the ovary or egg sac, from which these germs find their way into the eggs, causing infection of future generations if these birds are used for breeders.

SYMPTOMS. If a chick has the germs in its system the disease usually develops in two to five days after hatching. Affected chicks are dull, dispirited, and dejected looking. (See Fig. J, page 18). There is diarrhea, and in the more serious cases a white, pasty substance closes up the vent. As a result the chick becomes pot-bellied, and utters pitiful cries indicating great pain. Death usually follows in a few hours. Those only mildly affected may develop without showing any outward signs of the disease, and reach maturity with the germs concealed in their ovaries. Such fowls are "carriers," also known as "reactors."

On post mortem examination, chicks dying at from one to five days of age often show no visible evidence of the disease, either internally or externally. Older chicks may show grayish-white or yellow spots on the lungs, in the heart muscle, and sometimes on the intestine. The ovaries of infected hens may show partially or completely developed egg yolks which are misshapen and of peculiar color such as dark brown or greenish. These may be hard and dry throughout, or they may contain fluid.

PREVENTION. As there is no known cure for this disease, preventive measures have to be relied upon entirely. Since "carriers" of the disease show no external evidences, the agglutination test, which is a blood test, is used to detect these disease spreaders. Once it has been determined which hens are the carriers of the disease they should be separated from the flock and never used as breeders.

Baby chicks should be divided into small flocks so they can be watched more closely. If any are noticed with bowel trouble they should be removed at once, and either kept to themselves for a few days under observation or else killed and burned. Droppings should be cleaned up regularly at frequent intervals. Covering the brooder room floor with half-inch mesh wire, raised a few inches from the floor, will do a great deal to prevent the spread of this and many other diseases.

A very important factor in the control of this trouble is to keep houses, runs, and all equipment in a clean and sanitary condition by cleaning often and using Dr. LeGear's Dip and Disinfectant freely.



Fig. N — DEATH FROM CHOLERA

FOWL CHOLERA

Fowl cholera is a contagious disease, usually rapidly fatal but sometimes chronic. It is caused by infection with a specific germ, and is predisposed to by improper feeding, insanitary surroundings, exposure to drafts, and bad weather. It is often

brought to a poultry yard by bringing in new birds from an infected flock, or the germs of Cholera may be conveyed on coops, utensils, or on the clothing of a person from an infected yard, etc.

SYMPTOMS. Diarrhea is usually a very prominent symptom. The urates, that portion of the discharge thrown off by the kidneys and which in healthy fowls is white in color, becomes yellow or even green. The sick bird shows great thirst, a lack of life and spirit, and mopes around with ruffled feathers, half asleep. The comb becomes pale or dark purple in color, and the fowl loses its appetite. A rattling breathing, and occasionally lameness, sometimes accompany the disease. Fowls affected usually die within 36 hours. In very acute cases the first sign may be the finding of a fat hen, that was apparently quite well a few hours previously, dead under the roost. Sometimes the disease runs rapidly through a flock, destroying the greater part of the birds in a week, or it may take on a more chronic form, extend slowly, and remain on the place for several months. This disease attacks every kind of domesticated fowl.

PREVENTION. Treatment of Fowl Cholera is often unsatisfactory, so when the disease appears all efforts should be directed toward preventing its spread. Isolate sick birds at some distance from the healthy flock, as soon as they are discovered. All fowls that die should be burned or buried. Follow closely the suggestions for Sanitation given on page 5.

Boil all drinking and feeding utensils. Change the water often so as to keep it clean. Feed only the best quality feed, but temporarily reduce the protein by half. Keep the non-infected birds eating heartily, to keep up their resist-

ance. If appetites lag add Dr. LeGear's Poultry Prescription to their feed as an appetizing tonic. Do everything you can to keep them in good condition.

FOWL TYPHOID

Fowl Typhoid is an acute infectious disease that affects young and old birds. It is caused by a germ.

SYMPTOMS. There is loss of appetite, and the droppings are soft yellowish or greenish. The membranes of the head, comb, and vent are usually paler than normal, but in acute cases may be darkened. Five or six days after the symptoms are noticed the birds will usually die.

Post mortem examination will reveal an enlarged, darkened, greenish or mahogany liver, covered with small grayish spots. The spleen is usually mottled in appearance, the gall bladder distended, and the kidneys are enlarged, lighter in color, and easily broken. Paleness of the mucous membranes is usually noticed.

PREVENTION. The same as outlined for Fowl Cholera. Isolation of sick birds and sanitation are your best weapons in fighting the disease.



Fig. 0 — USDA Photo
HEN WITH TUBERCULOSIS
(showing diseased internal organs)

FOWL TUBERCULOSIS

Fowl tuberculosis, or "TB", is a chronic infectious disease of all domesticated birds. The disease is more common among poultry than is generally thought. As tuberculosis is such a slowly developing disease it is seldom seen in birds under a year old.

CAUSE. The cause is a germ, which is usually introduced into the flock by diseased poultry, but may also be carried by wild birds, animals, particularly hogs, and persons visiting from diseased flocks. The infection is picked up by birds eating or drinking food or water contaminated with droppings from affected birds.

SYMPTOMS. The disease cannot be recognized positively by external symptoms, but there are some general symptoms that should be looked upon with suspicion. Losing flesh (going light) with a good appetite, weakness, lameness, paleness of the comb and wattles, etc., in hens one year old and older are the more common external signs which might indicate the presence of the disease.

A post mortem examination will usually show grayish-white or yellowish growths or nodules on the internal organs, chiefly the liver, spleen, and intestines. These contain a yellowish to grayish cheesy substance. This condition when found on the liver is often called "spotted liver." On the intestines are usually found hard, fleshy growths or tubercles, varying in size from a kernel of wheat to a small hen's egg. These are usually found on the outside of the bowel, and are easily seen.

PREVENTION. Fowls can be tested for tuberculosis the same as cattle. Where the disease is known to exist in a flock all affected birds should be located by means of the tuberculin test and destroyed, or else all suspicious

cases, that is, all fowls that do not look healthy and well, should be killed and burned or buried deeply. The chickens should not be allowed to run with the hogs, as hogs may have this disease also. Thoroughly clean and disinfect all houses, coops, runs, etc., with Dr. LeGear's Dip and Disinfectant once a week. Spread a heavy coating of lime on the runs and ground about the houses, and plow deeply or spade it in, and plant to oats, wheat, rye, or barley. Repeat this plowing and planting each month during the growing season.

The tuberculin test should be applied twice a year until the disease has been eradicated from the flock. If after the above recommendations have been vigorously carried out new cases continue to show up, it is advisable to dispose of the entire flock. Then let your place go without chickens for at least a year, and start in again with baby chicks.

Thorough cooking kills the germs of fowl tuberculosis, and any bird that does not show any of the lesions of the disease when being dressed, and is otherwise healthy and fat, is perfectly fit for human food.

FOWL POX

Sore Head — Canker — Diphtheria

Fowl pox is a contagious disease which occurs in two distinctly different forms. It is caused by an ultramicroscopic virus, which is a germ too small

to be seen even with a microscope. One form of the disease, known as sore head, affects the outer skin and mucous membranes, while the other form, known as canker or diphtheria, affects the mucous membranes of the mouth, nose, and throat. Both of these forms may occur together, or they may appear separately. Infection usually occurs from the comb and wattles being injured by infected beaks or feet, or being bitten by mosquitoes or mites carrying the germs.

SYMPTOMS. In sore head a number of eruptions or small lumps, varying from the size of a pinhead to that of a pea or hazelnut, appear on the comb, wattles, eyelids, ear lobes, and sometimes on other parts of the body such as the neck, legs, under the wings, on the rump, and about the vent.

On the head these eruptions are small, red, or reddish-gray deposits with a shiny surface, while on the body the lumps may become larger. They gradually enlarge, becoming dry, shriveled, uneven and wart-like in appearance, while the color changes to yellow, brown, or dark brown. As these eruptions increase in number and the inflammation extends, large areas of the skin will become thickened and covered with hard, dry crusts, closing the nasal openings and eyelids and often making it difficult to open the beak.



Well-kept, thriving birds are true money-makers.

If the attack is mild the eruptions are limited to the head, they are small and distinct, and the general health is not affected. The spots soon dry, shrink, and heal, the crusts become loose, and recovery is rapid. But in malignant cases the eruption is more general, the lumps are large, and there is considerable inflammation and thickening of large areas of skin. When the crusts are rubbed off there will be a watery discharge from the ulcerated surfaces, which will later thicken, become yellow and sticky, and give off a disagreeable odor. In this type of the disease there is fever, rapid loss of flesh, prostration, and death.

When the canker or diphtheritic type of fowl pox occurs the disease is often confused with roup, because of general symptoms in both conditions. Canker is often accompanied by the external lesions of sore head, also. Cankers or ulcerative patches may be seen on any part of the mucous membrane of the mouth, tongue, or throat. They appear as a white or yellowish leathery substance.

TREATMENT AND PREVENTION.

Watch your flock carefully for the first signs of this disease, in either of its forms. Remove all birds that become infected, and keep them at some distance from the healthy flock. Thoroughly clean and disinfect all houses, coops, etc., with Dr. LeGear's Dip and Disinfectant

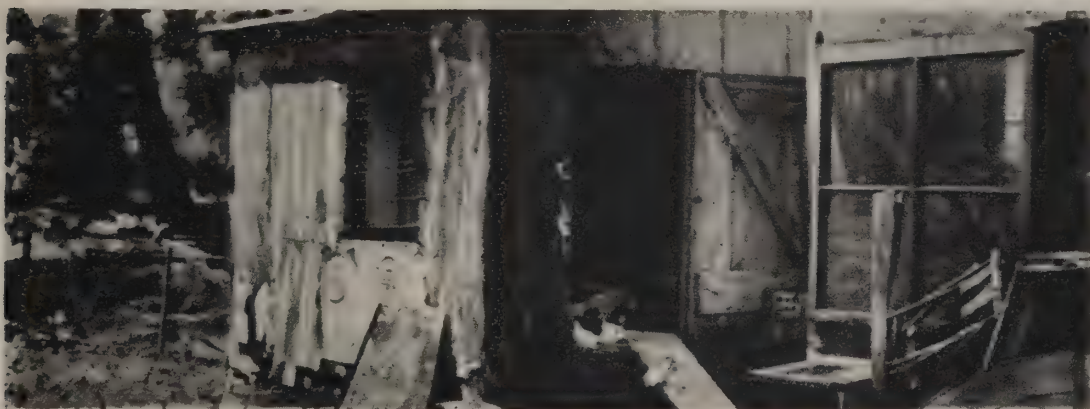
once each week. Spray the Disinfectant well into all corners, cracks, and crevices to kill any mosquitoes, other insects, or germs which may be present.

Carefully remove all of the scabs you can, but be careful not to irritate the parts too much. Apply to the raw surfaces with a small swab of cotton a little of Dr. LeGear's Dip and Disinfectant, full strength. Do not use this treatment in the eyes, as it is too strong.

Where throat cankers occur these should be removed with a toothpick or other instrument and the spots touched with a little of Dr. LeGear's Dip and Disinfectant, full strength, once daily until relieved.

The mouth and throat may be tender, so give wet mash, warmed a little, for a few days. Also give a physic of Epsom salt (see page 35 for dosage of Epsom salt).

Vaccination against this disease is being practiced in many localities. Two methods of application are being used. One is by the "stick" method, injecting the vaccine into the skin on the point of a needle; in the other method, after pulling out four or five feathers on the leg, a few drops of vaccine are painted with a small brush on the place where the feathers were pulled. Fowl pox vaccine is not to be used in healthy flocks where the disease does not occur annually.



Your flock cannot do its best in insanitary surroundings.

GIVE YOUR POULTRY A BOOST with DR. LE GEAR'S POULTRY PRESCRIPTION IN CONCENTRATED FORM



1. WITH CHICK'S
FIRST FEEDING.



2. THRU GROWING
PERIOD.

Can be used —

1. With Chick's First Feeding
2. Thru Growing Period
3. During Egg Production
4. During the Molt

Birds must be in top-notch condition, eating heartily, to be profitable in growth or egg production. If feed consumption is low give your poultry the tonic "boost" provided by Dr. LeGear's Poultry Prescription—the leader among poultry tonics, with 100% active ingredients. Its tonic properties step up poor, unprofitable appetites.

This appetizing tonic, with its added value as blood tonic and the important minerals it contains, is excellent for use during the molt, or during recovery from sickness, or from the effects of worm infestation.

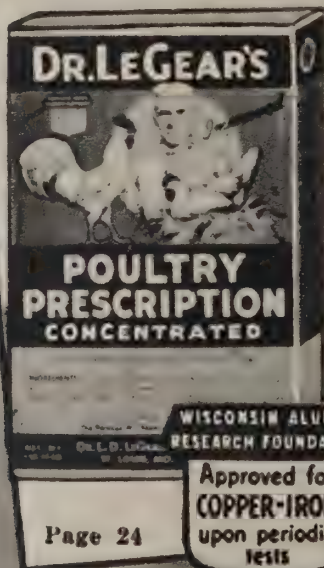


3. DURING EGG
PRODUCTION.



4. DURING
THE MOLT.

TRY 30 DAYS WITH SATISFACTION ASSURED OR YOUR MONEY BACK



If you mix your own feed, use on the basis of $\frac{3}{4}$ lb. per 100 lbs. of total ration. If you have your feeds mixed, simply instruct your feed mixer to include in this proportion. You are protected by Dr. LeGear's ASSURANCE OF COMPLETE SATISFACTION OR YOUR MONEY BACK. Packed in following sizes: 12 oz. — 1 lb. 14 oz. — 4 lb. 8 oz. — 15 lb. Also 100 lb. bags. Full directions on every package. THE LARGER SIZES SAVE YOU MONEY.

Carries Seal of Approval of Wisconsin Alumni Research Foundation for Copper and Iron content.

Individual Treatment for Large Round Worms

DR. LEGEAR'S NICOTINE KAMALA PILLS

Highly effective, easy-to-give treatment for removing large round worms (ascarids) from chickens and turkeys. Two convenient sizes, for Chicks & Pullets and for Adults.

Recommended twice yearly; fall and spring when birds are being moved into or out of winter quarters, or at the beginning of the molt. Use only as directed on the package.

Administered at roosting time when crop is full. Do not starve birds beforehand. Place pill well back in throat and see that it is swallowed (see Figure R, page 33).

Dosage for chickens 3 lbs. or more, or turkeys 7 to 14 lbs., 1 Pill. Adult Size. Complete directions for birds of all sizes on every package. **Packaged** in envelopes of 50 Pills each. Also sold in 1,000 Pill Packages.

FLOCK TREATMENT FOR ROUND WORMS

DR. LEGEAR'S POULTRY *Ascarid* WORM POWDER

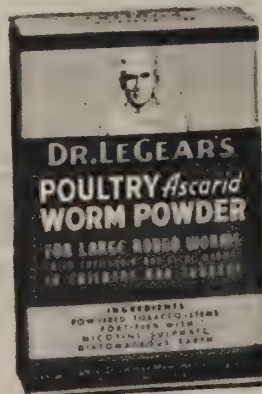
Efficient "flock treatment" for removing large round worms, capillary worms, and cecal worms from chickens and turkeys. Mild, safe, convenient to use.

Recommended when birds in full production need worming, for young birds, or birds with lowered vitality. Worm-removing action is persistent but mild, so there is no interference with growth or egg production.

Administered by adding it to feed for entire flock. Prevents excitement of birds. Saves time and handling of birds. Mixes readily in ration.

Dosage is only 2¼ lbs. per 100 lbs. of feed regardless of size and age. Treatment against large round worms and capillary worms should be continued for 3 weeks; for cecal worms give 4 weeks treatment. Full directions on every package.

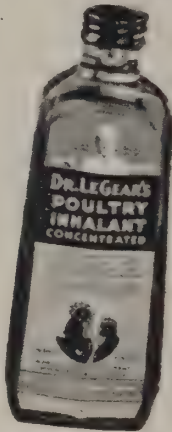
Packaged in convenient 1 lb. 2 oz. and 10 lb. packages. Also in 50 lb. bags.



For Common Respiratory Troubles DR. LEGEAR'S POULTRY INHALANT CONCENTRATED

An antiseptic and stimulating expectorant spray in concentrated form. Convenient and economical to use.

Recommended for relief of colds and other minor respiratory inflammations of chickens and fowls of all ages. Helps to expel mucus, allay coughing and sneezing, soothe inflamed tissues, stimulate membranes to normal function. Safe even for baby chicks.



Packaged in handy bottles — 4 ounces — quart — gallon.

Administered by diluting with water, in the proportion of 1 oz. Inhalant in each pint. Spray in fine mist over heads of birds. Can also be used by steaming solution over hot stove.

Dosage of diluted spray for birds of any age is 1 oz. per 100 cu. ft. space in poultry house, or about 1½ pints per 100 adult birds per treatment. Repeat according to directions as needed.

FOR SIMPLE DIARRHEA USE

DR. LEGEAR'S A-A POULTRY TABS

An astringent drinking water medication for all poultry. "A-A" stands for "all age", and these superior astringent tablets are intended to be added to the drinking water of chickens, turkeys, or other fowl, of any age.

Recommended as of especial value in simple diarrhea; when used according to directions A-A Poultry Tabs have a definite tendency to prevent the occurrence of this trouble, and they will result in checking many cases of diarrhea completely.

Administered simply by dissolving the tablets in the drinking water, in any type vessel. For complete solution stir, shake, or pour back and forth.

Dosage is only 2 tablets to a gallon of water for pullets and adult birds; 3 to a gallon for baby chicks up to pullet age. In case of disease outbreak accompanied by diarrhea use 4 tablets per gallon for entire flock. Full directions on every package.



Packaged in 20, 50, 120, and 500 tablet packages.

DR. LEGEAR'S Poultry Antiseptic Tablets

Ideal for making up antiseptic solutions to be used in treating certain poultry ailments. Convenient and economical.

Recommended in the treatment of roup and kindred diseases of the upper air passages, such as head catarrh and common colds. Solutions prepared from these tablets useful and effective for irrigating air passages and sinuses of head.



Packaged in popular sizes. 25 tablets and 60 tablets.

Used by crushing and dissolving in water. Dip bird's head in this antiseptic solution, several times for a moment at a time, after massaging mucus out of swollen parts and cleansing nostrils of discharge. In this way the solution enters nasal cavities and sinuses.

Dosage to make antiseptic solution, dissolve 2 tablets in each pint of warm water. Full directions on every package.

Get After Lice with DR. LEGEAR'S LICE POWDER

An insecticidal dusting powder, for use on poultry and all live stock.

Recommended to kill lice. Frequent use affords great relief from these pests, which may become so numerous as to interfere with growth and production and even destroy birds. Not recommended for use on baby chicks.

Used by dusting thoroughly under feathers of bird, particularly under wings, along back, and in region of vent. Repeat treatment periodically. In addition, a dust bath loaded with Lice Powder may be provided, so birds may apply it themselves between regular treatments. Full directions on every package.



Packaged in convenient 14 oz. "sifter-top" cans.

LIMBER NECK

Botulism

Limber neck or botulism, also known as food poisoning, is caused by eating spoiled vegetable or animal matter on which certain poison-producing germs are growing, or by eating fly maggots which have been feeding on this material.

SYMPTOMS. This disease is characterized by a paralysis of the neck muscles. It is impossible for the affected bird to raise its head and neck, and the head is resting on the ground between the feet. If the head and neck hang down no matter in what position the bird is held, and the neck feathers are very easily removed, you may be reasonably sure that the condition is that of limber neck.

TREATMENT. Treatment is not very successful unless very quick action is taken. Individual birds may be given one-half teaspoonful of Epsom salt in a wet mash feed. A veterinarian may administer injections of botulinus antitoxin. At the first sign of the disease all birds should be penned up and a thorough search of the premises made for decayed animal or vegetable matter. Only fresh, clean feed should be given.

FLU

Laryngotracheitis — Tracheitis

Flu or laryngotracheitis is caused by a virus, the most minute type of germ. The infection is spread through the respiratory organs and usually causes high death loss once it gets a good start.

SYMPTOMS. Stretching of the neck and gasping, with bird in a crouching attitude, showing difficulty in breathing. A characteristic rattle of the lungs is noted. Mucus is expelled from the mouth and sometimes from the nostrils, and the nostrils are usually partly filled with dried mucus. Old birds are more sus-

ceptible to this infection than young birds. The disease has been known to reappear year after year on the same farm.

PREVENTION AND CONTROL.

There is no treatment which is very effective for this disease. Practice strict hygiene and sanitation. Separate all sick birds from the well ones. Remove the droppings daily. Clean and disinfect the poultry houses and runs with Dr. LeGear's Dip and Disinfectant, using one part of the Disinfectant to thirty parts of water.

If the heads and eyes become swollen use treatment as outlined for external swellings of roup (see page 29).

Healthy birds on premises where the disease has occurred previously may be protected by vaccination with laryngotracheitis vaccine.

Birds that recover from flu should not be returned to the flock, since they are often "carriers" of the disease and can re-infect the flock.

CHICK BRONCHITIS

Infectious Bronchitis

This is a fairly new disease of chicks, very similar in appearance and action to flu or infectious laryngotracheitis. However, it is a different disease, caused by a different virus. This disease usually affects birds when they are two to three days old; however, much older birds have been known to suffer from it. At about eighteen months of age birds appear to become immune to chick bronchitis.

The symptoms and method of prevention are the same as given for flu, except that no satisfactory vaccine has yet been produced to prevent this disease.

ROUP

Sinusitis — Infectious Coryza

Roup or sinusitis (inflammation of the sinuses), also known as infectious coryza, is a contagious

disease that often causes heavy losses. It is most commonly seen during the fall and early winter when the weather is damp and cold. Once introduced in a flock it may remain for years, as it is often hard to eliminate. Young birds and fowls with weakened constitutions are especially susceptible. If a fowl has a common cold or catarrh it is more susceptible to roup, as the mucous membranes of the head are already inflamed and the germs multiply much more rapidly.

SYMPTOMS. The symptoms are a sudden and severe cold, with increased temperature of the head, sneezing generally diarrhea, and a weakened condition. In the most severe cases death may result in a few days. Usually the bad cases linger for a week or more, and show increasing symptoms. The discharge, instead of remaining fluid as in simple catarrh, becomes thick and cheesy and may obstruct the nasal passages so that the bird is compelled to breathe through its mouth.

The inflammation extends to the eyes and causes them to swell up and close. The discharge from the nose takes on a very offensive odor. (See Fig. H, page 18).

TREATMENT. Put all sick birds to themselves in clean, dry, open-front houses if possible, free from drafts, and as far from the flock as possible. Thoroughly clean up all infected houses, nests, and runs with Dr. LeGear's Dip and Disinfectant as directed, to assist in preventing the spread of the disease. Burn all the droppings from the sick birds, and also burn all litter, refuse, etc. Boil or scald all feeding and watering utensils daily.

For external treatment, crush and dissolve two of Dr. LeGear's Poultry Antiseptic Tablets in a pint of pure warm water, using clean earthenware, glass, or porcelain vessels, and wash the



Fig. P — BIRD WITH ROUP

eyes and mouth, using a swab of absorbent cotton and rubbing gently. At the same time press and massage about the nostrils and under the eyes to loosen the accumulated secretions. If there is a swelling under the eye it should be carefully opened with a sharp, clean knife, all the contents removed, and the cavity washed out with the solution. Dip the fowl's head in the solution and hold it there for a few seconds but not long enough to cause suffocation. Repeat the dipping two or three times, until it has penetrated into all the accessible cavities of the head. (See page 27).

Treat the symptoms of head catarrh with Dr. LeGear's Poultry Inhalant as recommended for simple colds (see page 26). The roup birds should be sprayed every hour for the first two or three treatments, and then every two to four hours during the day and once or twice at night after they have gone to roost. If diarrhea is present dissolve four of Dr. LeGear's A-A Poultry Tabs in each gallon of drinking water, regardless of the age of the birds (see page 26).

COMMON COLDS

Simple Catarrh

One of the most common ailments of poultry the world over is the common cold, or simple catarrh. Sometimes it attacks

only a few fowls in a mild form from which they recover in a few days without treatment. At other times it affects almost the entire flock and may linger on in a chronic form. A cold often weakens a fowl so that it more readily succumbs to other diseases, such as roup.

CAUSES. A cold can best be considered as an infectious disease of unknown cause. As in colds in man, there are no definite and characteristic germs found. Exposure to drafts, especially while on the roosts at night, poorly ventilated houses, overcrowding, exposure to dampness, cold winds, external and internal parasites, etc., tend to lower the resistance of birds and may all be considered contributing causes.

SYMPTOMS. At the outset colds resemble roup very closely. There is a watery discharge from the nostrils and sometimes from the eyes, and the fowls may sneeze and have difficulty in breathing. Sometimes the eyelids become swollen, causing the eyes to close. The appetite is usually diminished, and there is some degree of general depression, with the birds standing around, droopy, with ruffled feathers.

TREATMENT. As this disease resembles roup very closely it is well to be on the safe side and remove all sick birds from the flock. Put them in a well-ventilated, dry, well-lighted house. Avoid drafts on the birds at all times, and keep the temperature of the poultry house moderate. Give them soft, nourishing food, and feed often in small quantities, to reduce contamination of the feed by their nasal discharges. Change the drinking water as often as necessary to keep it always clean and fresh.

For direct treatment of the catarrhal condition of the head the birds should be sprayed with

Dr. LeGear's Poultry Inhalant. This is an antiseptic and stimulating expectorant prescription, and is recommended as a valuable aid in the treatment of colds, coryza, rhinitis, and minor bronchial inflammations (see page 26).

FOWL PARALYSIS

Leucosis — Leukemia — Range Paralysis—"gray eye", "big liver"

This is a widespread, transmissible disease-complex of chickens, resulting in partial or complete paralysis of wings, legs, or neck, formation of tumors, peculiar mis-shaping and fading of the eyes, blindness, and anemia. A tremendously enlarged liver is sometimes found on autopsy. These are all manifestations of the same disease.

CAUSE. The cause is not definitely known, but believed to be a filterable virus. This condition can be transmitted in many ways, by pen contact, through the egg, or by the common red mite and possibly other parasites. Chickens are the only fowls affected, and the younger birds, particularly between four and ten months of age, are most susceptible.



Fig. Q — FOWL PARALYSIS

SYMPTOMS. The symptoms include paralysis of one or both legs or wings; odd, uncontrolled movements; blindness and "gray eye"; shrinking and wasting of the muscles. (See Fig. Q, page 30). As a rule affected birds continue to eat until near death, although egg production usually ceases. There may be diarrhea. Fowl paralysis shows up in affected birds slowly. It is usually between two and seven months after exposure before the disease appears. All birds in a flock are ordinarily not affected, but almost all of those affected will die. Birds which do recover are worthless.

PREVENTION AND CONTROL. No treatment for this condition has yet been found. However, a careful program such as outlined below is worth while in an effort to control the disease.

It is essential to keep birds free of parasites, both internal and external, since their presence always lowers the birds' resistance and some are thought to transmit the disease directly. For control of these parasites there are several Dr. LeGear Prescriptions available. For intestinal worms use Dr. LeGear's Nicotine Kamala Pills or Dr. LeGear's Poultry Worm Powder (see page 25); for control of external parasites use Dr. LeGear's Lice Powder, Poultry House Insecticide, and Dip and Disinfectant (see pages 27 and 36).

The premises should be kept clean, and disinfected weekly with Dr. LeGear's Dip and Disinfectant, and all droppings should be removed and burned daily.

Sick birds should be promptly removed from the flock, which should be culled regularly for the removal of all "gray eyed" birds or those showing any change from the normal color or shape of the eye, or any symptoms of paralysis.

Since the disease spreads slowly it may reappear on the same farm from year to year. Some authorities advise against hatching eggs from any flock which has shown symptoms of this disease, while other experts recommend a newer plan of choosing normal birds for breeding from a flock which has had the condition for several years. They maintain that this shows natural resistance which in turn is passed on to the young, resulting in an immune "strain."

MYCOSIS

Mycosis is not a single disease but rather a general term for fungus diseases. Following are three important types of Mycosis.

ASPERGILLOSIS

Brooder Pneumonia

Aspergillosis or brooder pneumonia is a type of mycosis or fungus disease of the lungs and air sacs, which may affect birds of all ages but usually occurs in baby chicks. The disease is caused by molds which are formed in musty litter or grain. The condition may strike only a few birds, or it may wipe out the whole flock.

SYMPTOMS. The birds show rapid, difficult breathing accompanied by a rattling sound. They are dull and listless, stand quietly by themselves, and appear exhausted. As the mold continues to grow it closes up the entire respiratory tract and death results from suffocation.

PREVENTION. There is no cure for affected birds, and they should be removed as soon as discovered. Change litter and feed immediately, and use only that which is clean, bright, and entirely free from must or mold. Feed only high quality feed. See that the brooder is dry, well ventilated but not drafty, and disinfect often with Dr. LeGear's Dip and Disinfectant.

WHITE COMB

Favus

White comb or favus is another form of mycosis. It is a contagious disease of fowls in which grayish-white spots appear on the comb, wattles, and ear lobes. It is caused by a fungus or mold, and is transmitted by pen contact.

SYMPTOMS. The spots appear first on the bare portions of the head, and increase in size and number until the whole head is covered with dirty white scales or crusts.

TREATMENT. Remove all affected birds from the flock, and apply Dr. LeGear's Dip and Disinfectant full strength to the affected areas. This will usually kill the fungus and cure the disease. If the whole body is affected, however, it is usually best to kill the bird and burn the carcass to prevent infection of other birds.

THRUSH

Thrush, which is another form of mycosis, is an infectious disease of the mouth and crop, and occasionally of the gullet and stomach. It affects young chickens, turkeys, and geese. It is caused by a fungus or mold.

SYMPTOMS. The fungus causes the formation of grayish-white or yellowish patches on the membranes of the mouth, throat, and elsewhere. There is drooling, loss of appetite, and rapid loss of weight.

TREATMENT. Isolate all sick birds. Remove the thrush deposits in the mouth and throat with a toothpick or tweezers. Paint the areas with a solution of one part tincture of iodine and four parts glycerin. The quarters should be thoroughly disinfected with Dr. LeGear's Dip and Disinfectant, and Dr. LeGear's A-A Poultry Tabs should be added to all drinking water for their astringent effect on inflamed tissues.

VENT GLEET

Vent gleet is a venereal disease of poultry which may become contagious and spread through the whole flock. It usually occurs in hens, and is transmitted to the male during mating. The male may then give it to all of the hens in the flock. A similar condition in a non-contagious form is often seen in hens that are overly-fat.

SYMPTOMS. Vent gleet is an inflammation of the lower bowel, which in aggravated cases develops ugly and filthy ulcers and sores in and on the outside of the vent. There is an offensive discharge.

TREATMENT. Isolate the affected hens. Carefully examine the male birds and all the hens in the flock, and if any more cases are found isolate them also.

Wash the affected parts once a day with a solution made by mixing one tablespoonful of Dr. LeGear's Dip and Disinfectant with one quart of warm water. Each time after washing apply Dr. LeGear's Antiseptic Oil to the affected parts. Give each affected bird one teaspoonful of Epsom salt at a dose, and feed on wet mash for a few days until the sores heal.

Do not put a hen that has had this disease back in the flock for several weeks, as it may reappear suddenly at any time. Green feed and easily digested cooked food, such as table scraps, etc., are usually beneficial in cases of vent gleet.

WORMS IN POULTRY

Intestinal worms in poultry cause the loss of millions of dollars each year, and are, in fact, the cause of one of the greatest losses in the poultry industry. Worms irritate the intestinal walls. They throw off poisons which, when absorbed by the fowls, undermine their health, making them more than ordin-

arily susceptible to many diseases. Worms take from the birds some of the nourishment necessary for health and normal egg production. A large percentage of all poultry have worms.

Many types of worms infest poultry. However, only a few are really important from an economic standpoint, since the others either are rare or do not constitute a very serious threat to the health of the birds.

In the control of any type of poultry worms sanitation plays a very important part (see "Sanitation", page 5).

LARGE ROUND WORMS

Ascarids

Large round worms or ascarids live in the middle part of the intestinal tract of chickens, turkeys, and guinea fowl, and are often present in large numbers.

It is generally agreed by leading authorities that wormy birds cannot be made profitable until they have been freed of these parasites. If worms are not controlled the premises may become infested with worm eggs to such an extent as to make poultry raising a complete failure.

SYMPTOMS. Round worm infestation may be shown by droopiness, loss of appetite, and unkempt appearance. There is usually a decrease in egg production, and loss of weight. In severe cases

drooping wings and pale or anemic combs and wattles may be seen. In very severe infestations there may be lameness, blindness or paralysis.

To make sure whether or not your flock has large round worms, kill two or three of the birds for the table and open their intestines. (See Fig. K, page 18).

TREATMENT. The removal of large round worms or ascarids from the intestinal tract of poultry is of the greatest importance, since no bird can be heavily infested with them and at the same time remain in good health and make satisfactory gains or be an efficient and profitable producer. Both chickens and turkeys may be treated for worms either by giving each bird one of Dr. LeGear's Nicotine Kamala Pills or by "flock treatment" with Dr. LeGear's Poultry Worm Powder (see page 25).

The "flock treatment" is preferred for young chicks, birds with lowered vitality, and birds in heavy egg production, since this treatment is spread over a period of time and is thus mild, and also requires no handling of the birds. When chicks are about six weeks old Dr. LeGear's Poultry Worm Powder may be added to all of their mash feed. This treatment should be continued for three weeks, and after an interval it may be repeated for another period of three weeks if necessary.

For larger birds, Dr. LeGear's Nicotine Kamala Pills are very efficient against large round worms, and should be used whenever these parasites are present in the flock.

Treatment with Dr. LeGear's Nicotine Kamala Pills is easy. Do not fast or starve the birds. Adult birds should be treated twice a year, before placing them in the laying house in the fall and again late in the spring. Af-



Fig. R — Individual worm treatment with Dr. LeGear's Nicotine Kamala Pills.

ter the birds have been wormed they may benefit from Dr. LeGear's Poultry Prescription added to their feed, to stimulate the appetite and help to overcome any anemia or other effects of the worm infestation.

Birds in extremely bad condition cannot well stand individual worm treatment. If the flock is run down from heavy worm infestation or any other cause, worm pills should be given to only a few of those in the poorest condition, to determine their resistance. If these birds show no ill effects it is considered safe to treat the remainder of the flock on the next day.

A strict program of sanitation must be put into practice to control worm infestation. Poultry houses should be thoroughly cleaned and disinfected with a strong solution of Dr. LeGear's Dip and Disinfectant. Runs should be spaded under deeply. Dropping boards should be cleaned and droppings burned every day. (See "Sanitation", page 5).

CECAL WORMS

Cecal worms are small, white, round worms living in the ceca or blind guts. They usually do not cause serious disorders in chickens, but they are considered as carriers of the blackhead germ which so seriously affects turkeys. Therefore take all possible steps to rid your birds and premises of these parasites.

TREATMENT. Give Dr. LeGear's Poultry Worm Powder in the mash feed. Use as directed for cecal worms on the label, for four weeks instead of three weeks as recommended for large round worms.

CAPILLARY WORMS

Hair Worms — Thread Worms

Capillary worms or capillaria, also known as hair worms or thread worms, are very small, slender, and colorless. These

worms are hard to see on post mortem examination, but may seriously affect poultry when present in large numbers.

TREATMENT. Give Dr. LeGear's Poultry Worm Powder in all the mash. Use the same three week treatment as outlined for large round worms.

TAPE WORMS

Tape worms are flat, white, segmented or jointed worms. Several species are found in chickens, varying in size from those requiring a magnifying glass to be seen up to worms several inches in length. The importance of these worms is frequently exaggerated, since apparently they cause difficulty only in the most severe infestations.

TREATMENT. No satisfactory treatment for tape worms has ever been discovered. Dr. LeGear's Nicotine Kamala Pills have a "shearing" action on these worms, causing the segments behind the head to break off and pass out with the droppings. No drug or compound known can do more, but this does not constitute a competent treatment, since the head that remains will grow new segments. Any tape worm treatment attempted should be coupled with a strict program of sanitation, including removal and destruction of all droppings and control of insects. (See "Sanitation", page 5).

COCCIDIOSIS

Coccidiosis is caused by single-celled protozoan parasites called coccidia, which bury themselves in the lining of the bowel. There are different species which affect chickens, turkeys, ducks, geese, and pigeons.

Coccidia are microscopic in size and can therefore easily be transmitted from place to place by any number of means. Usually a bird contracts the disease by taking in coccidia with feed or

water contaminated with droppings from other affected birds.

Coccidiosis is one of the most serious and widely spread poultry diseases, and while it affects birds of all ages it produces the most damage among young birds up to two months of age.

SYMPTOMS. Chicks become droopy and dispirited, their feathers appear ruffled and dull, and they huddle together as if cold. They lose interest in food and often stop eating entirely. They lose weight rapidly and become weak. There is usually a severe diarrhea. This is often, though not always, tinged with blood. Post mortem examination will reveal an inflamed and swollen condition of the blind guts or ceca. (See Fig. L, page 18).

PREVENTION AND TREATMENT. Treatment of this condition has not proved very satisfactory, and most attention should be stressed on prevention. Strict hygiene and sanitation must be practiced. All drinking vessels should be cleaned thoroughly and boiled or scalded daily at least. Water should be changed several times daily. Feed troughs must be kept clean, and the litter changed frequently. Burn the old litter, as well as the bodies of any birds having died from the disease. The droppings should be cleaned up once in every 24 hours. If possible the birds should be kept on wire floors, to prevent contact with droppings. Since coccidiosis is transmitted by the infected droppings this will make it "self-limiting", and the disease will gradually die out.

Giving a milk or Epsom salt "flush" is practiced with some success in the treatment of this disease. Dried skim-milk is included in the mash to the extent of 40%. This should not be continued for more than three weeks. When Epsom salt is used, add about $\frac{1}{4}$ pound to one gallon of water for each 100 chicks, or $\frac{1}{2}$ pound for 100 adults. This should

be given early in the morning when the birds are thirsty, and left before them for an hour or two, when it can be replaced with regular fresh water.

Birds must be kept in healthful surroundings and on a well balanced, nutritious diet to build up their natural resistance to disease.

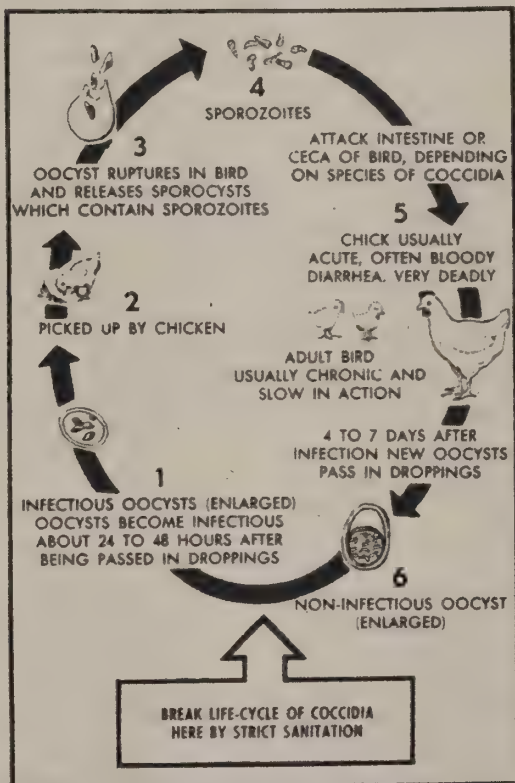


Fig. S—LIFE CYCLE OF COCCIDIA

BLACKHEAD OF TURKEYS

Enterohepatitis

Blackhead of turkeys is widespread throughout the country. It may occur in turkeys of all ages, but young poults are most frequently and most severely affected.

CAUSE. The blackhead germs live in the ceca or blind guts, and are carried through the blood stream to the liver. The microscopic protozoan parasites which produce this disease are passed off in the droppings of infected birds, to contaminate the ground, feed, and water.

Chickens are one of the most important agents in the transmission of blackhead in turkeys. The

Have **SANITARY SURROUNDINGS** with **DR. LEGEAR'S DIP & DISINFECTANT**

A standardized coal-tar dip and disinfectant. Germ-killing properties 5 times as great as pure carbolic acid.

Recommended as a general disinfectant and parasiticide, to inhibit and kill germs, molds, tiny parasites, and eggs of larger parasites in poultry house, barn, or home. Kills lice and other external parasites. Useful for disinfecting all poultry equipment.

Used in many ways, as by dipping, spraying, or painting on poultry houses and equipment. Dilute with water, because of high concentration and powerful germ-killing properties, 1 part in 25 to 100 parts water depending upon use. Makes perfect milky-white emulsion that doesn't separate on standing. Birds and animals may be dipped in the solution. Full directions on every package.

Packaged in all sizes — 8 fluid ounces — 1 quart
1 gallon — 5 gallons — 30 gallons — 50 gallons.



Kill **LICE** and **TICKS** (Blue Bugs) with **DR. LEGEAR'S Poultry House Insecticide**

Convenient to use, 100% active and with positive killing power. **More than a roost paint.** Action is two-fold, killing both by contact and by liberation of fumes that are poisonous to parasites.



Recommended to kill lice on poultry, or blue bugs (chicken ticks) and mites and bugs infesting poultry houses. Frees chickens and other fowls of lousiness, and knocks out infestation of chicken ticks, red mites, and poultry house bed bugs. Not recommended for use with baby chicks.

Used for killing lice by painting full strength on perch poles about 1 hour before birds go to roost. Use about ½ ounce in painting each 11 feet of perch poles. To kill blue bugs (ticks), red mites, poultry house bed bugs, and other night-time pests, spray interior of poultry house liberally with a mixture of Poultry House Insecticide in an equal amount of kerosene, paying particular attention to cracks and crevices. Full directions on every package.

Packaged in convenient 3 oz. and 6 oz. "shaker-top" bottles. Also in quarts.

disease occasionally appears in chicks, but chicks show much more resistance than poults and usually recover; thereafter they become chronic "carriers" of the infection, continually spreading it in their droppings.

In addition, turkeys become infested with the little cecal worm from eating feed or drinking water that has been contaminated with droppings of infected chickens. In turkeys it does enough damage to pave the way for blackhead. Besides, it is believed that the cecal worm itself carries the blackhead germs from chickens to turkeys.

SYMPTOMS. Poults affected with blackhead lag behind the flock, and may stand in one spot in a humped position, head down, wings drooping, and feathers ruffled. They rapidly lose weight and grow weak. Soon a diarrhea develops, varying from light green to a brownish color, and in four to six days after showing first symptoms many poults die.

On post mortem examination the ceca are generally impacted with a thick mass of foul-smelling material and the inner surface may show an ulcerated condition. The liver is enlarged and spotted with red, grey, or yellow areas. (See Fig. T, on this page).

PREVENTION. Treatment of blackhead is usually of very doubtful value. When blackhead occurs all sick birds should be removed from the flock without delay as soon as they are discovered. Dropping boards should be cleaned and droppings burned every day, and the houses cleaned and disinfected every week. Remove and burn all litter, and take out and clean all removable equipment. Then thoroughly disinfect with a strong solution of Dr. LeGear's Dip and Disinfectant as directed.

Drinking vessels should be thoroughly cleaned, and then

sterilized by scalding or boiling. Then they should be placed on platforms off the ground so the water will not become polluted with droppings. Attention should also be given to feeding equipment. Remember, food may be contaminated and thus spread disease almost as readily as drinking water. If sanitary feed hoppers are not already in use they may be employed to good advantage to help keep the feed clean. (See Fig. D, page 10).

The importance of the cecal worm should be kept in mind. If poults are kept free of these worms by systematic worm treatment with Dr. LeGear's Poultry Worm Powder blackhead will seldom make its appearance among your turkeys. Always raise your turkeys and chickens separately, and change the location of the turkey yards and runs, locating them on ground that has never been occupied by chickens.

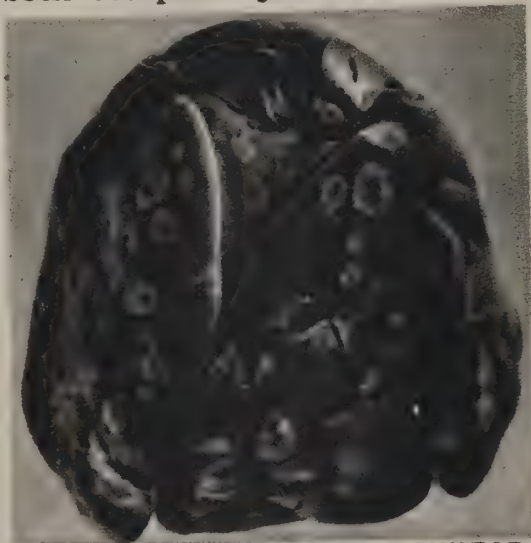


Fig. T — USDA Photo, BLACKHEAD LIVER

INFECTIOUS CATARRHAL ENTERITIS OF TURKEYS

Hexamitiasis — "Trichomoniasis"

Infectious catarrhal enteritis of turkeys or hexamitiasis, formerly called trichomoniasis, is a disease of young poults, causing its greatest losses in those under ten weeks of age. It is caused by a protozoan parasite, a little one-celled organism, which is associ-

ated with insanitary conditions. Affected birds appear haggard, with dark heads and sunken eyes. The crop is empty and the birds have no appetite. They drool from the mouth, and the feathers are ruffled and unsightly. A foul odor is always present, and the poults appear nervous and restless.

On post mortem examination ulceration and discoloration of the first part of the intestine are found, with portions of the gullet, crop, and stomach also occasionally involved.

There is no satisfactory treatment, and prevention is by sanitation and feeding clean feed.

LICE ON POULTRY

Chickens and other poultry are especially liable to lousiness, and few birds will be found entirely free of lice. Lice are a great menace to baby chicks, especially chicks hatched by hens.

SYMPTOMS. Poultry lice are all biting lice, and they cause the birds intense irritation and annoyance. This may result in drowsiness, loss of appetite, loss of flesh, failure in egg production, and even death, especially of young birds. The lice can easily be found by examining the skin and feathers under the wings and elsewhere. Lice on baby chicks may be seen most readily by slightly dampening the down on the chick's head or under the throat. If your chicks are not doing well look for lice at once.

TREATMENT. About an hour before birds go to roost apply Dr. LeGear's Poultry House Insecticide to the top of clean roosts and cross-arms, as directed. (See page 36). Ventilate only from the front of the house, without cross drafts. The body heat of the birds perching on the roosts releases vapors which permeate the feathers and kill the lice. Usually the fumes will remain toxic to lice for as long as two or three nights. After ten days examine

several birds. If any new lice have hatched from nits treat the roosts again to kill the young lice before they too can lay eggs.

Birds that do not roost in houses should be treated for lice with Dr. LeGear's Lice Powder. (See page 27). See that the Lice Powder is thoroughly dusted into the feathers, under the wings, and about the vent. Provide a dust bath, also, to which Dr. LeGear's Lice Powder has been added. Dr. LeGear's Poultry House Insecticide and Lice Powder are not recommended for use on baby chicks. When lice are found on baby chicks apply Dr. LeGear's Flea and Lice Powder to the head, under the throat, and a little under the wings. Setting hens should be dusted well with Dr. LeGear's Lice Powder when first set, and then again about three days before hatching to kill all lice on them and save the chicks from becoming infested.

BLUE BUGS, RED MITES & BED BUGS

Blue bugs or chicken ticks, red mites, and poultry house bed bugs are a serious menace to poultry in all the southwestern states, and it appears that they are migrating all over the country. All of these parasites lay their eggs around the poultry house, in cracks and crevices. The eggs hatch within



Fig. U — APPLYING POULTRY HOUSE INSECTICIDE

10 to 15 days in warm weather, and the pests proceed to attack the birds at night when they are on the roost. The parasites pass through several stages of development before becoming adults, when they in turn start laying eggs. Between each stage they attack and suck the blood of the birds.

SYMPTOMS. Birds show great irritation, poor condition from lack of sleep, weakness from loss of blood, and paleness about the head. Affected fowls fail in egg production and make poor gains in weight. The parasites weaken them for other diseases, and they may even die as a result of the infestation, unless relieved.

TREATMENT. These parasites do not stay on the birds, so the only successful method is to attack the pests where they live, in the poultry house. Dr. LeGear's Poultry House Insecticide should be mixed with kerosene, (see page 36), and the whole house must be sprayed thoroughly, particular attention being given to cracks and crevices, spraying into them deeply. This is important even in old houses that have not been used for some time, since blue bugs are very resistant and have been known to live over three years without feeding.

Begin in the morning and remove all loose material from the house, such as nests, barrels, boards, etc., and destroy these by burning if practicable. Then the roost poles should be removed and all supports and joints should be loosened or separated to spray between them. For spraying it is best to use a bucket pump with a long hose and a sharp nozzle; however, an ordinary fly spray-gun may be used very well.

Usually one treatment is enough, but at the first sign of re-infestation the process should be repeated.

SCALY LEGS

This is a diseased or scaly condition of the legs of poultry, caused by a small mite that burrows under the scales of the legs. It is a contagious disease, as the parasites spread from one bird to another, and it should be thoroughly treated and eradicated as soon as discovered.

SYMPTOMS. The scales of the shanks and feet become thickened, and stand out. An accumulation of dirt and matter is sometimes seen between the scales and the legs. The birds may appear only irritated at first, but the condition may progress and cause the legs and feet to be deformed with permanent lameness resulting. (See Fig. M, page 18).

TREATMENT. Dip the feet and legs of the affected fowls in pure kerosene or coal oil, and repeat the treatment in seven days. Do this in the daytime, so the treated fowls will not sit down and get the oil in their feathers. Then in four or five days apply a good coating of lard to all of the affected parts. In a few days the diseased scales and scabs should fall off and leave the feet and legs in a healthy condition.

Spray the inside of the poultry house thoroughly with Dr. LeGear's Poultry House Insecticide, as directed on the label for killing mites, to control reinfestation of the birds.

SIMPLE DIARRHEA

Simple diarrhea is due to an irritation or inflammation of the intestinal tract. It occurs in birds of all ages, and young chicks are especially susceptible. Diarrhea may result from a variety of causes. The more common causes are chilling or over-heating, dampness, over-crowding, eating sour, dirty feed, too much mash, drinking filthy, stagnant water,

etc. Diarrhea may be a symptom of indigestion or poisoning, and is also seen in connection with fowl cholera and other infectious and parasitic diseases.

SYMPTOMS. Bowel discharges are loose, and white, yellow, or even greenish in color. The feathers around the vent may become pasted up. Diarrhea is usually accompanied by loss of appetite, general sluggishness, and laying hens will drop off in egg production. Baby chicks may become so weak from diarrhea that they die in a few days. It may be difficult to distinguish between simple diarrhea in baby chicks and Pullorum disease at first, but simple diarrhea is more common. (See Pullorum disease, page 19).

TREATMENT. As a precaution, remove all chicks showing diarrhea from the flock, and place them to themselves in clean, comfortable quarters where they can have special care and attention. Find the cause of the diarrhea, and correct it. Look for the presence of other symptoms which might indicate some infectious disease. Feed lightly on only the best of feed, preferably dry mash. Dissolve four of Dr. LeGear's A-A Poultry Tabs in each gallon of drinking water, and allow no other water to be given. Water the birds in clean vessels, and change the water often enough to keep it clean. By this means valuable astringent medicines are carried into the birds' inflamed intestinal tracts, to soothe and heal these delicate membranes. Dr. LeGear's A-A Poultry Tabs are of especial value in the treatment of diarrhea. They have a definite tendency to prevent the occurrence of this common bowel trouble, and will check completely most cases of simple diarrhea due to non-specific intestinal inflammations. Dr. LeGear's A-A Poultry Tabs are as safe for day-old chicks as for adult birds. (See page 26).

CROP BOUND

"Bound up crop" is a trouble seen quite frequently during the winter and spring, but it may occur at any season. Fowls that are confined to their houses during the winter will often eat more or less of their scratching litter, which may not pass out of the crop but packs together into a ball or wad that remains there until removed. Also, fowls that are confined during the winter become very hungry for green feed and will eat dead grass or weeds, which may cause the trouble. A small quantity of indigestible matter in the crop may weaken it and prevent the grain from passing into the gizzard, which causes the trouble.

SYMPTOMS. The first symptom noticed is usually an enlarged crop and a peculiar, wrenching movement of the fowl's neck, as in the act of swallowing. The crop may be found to be full and hard, or it may be full and soft. If it is soft you can turn the bird's head down and gently press on the crop, and a quantity of very sour liquid will run from the mouth.

TREATMENT. Remove the bird from the flock and place her in a small coop to herself where she can get nothing to eat, but keep fresh water before her. Give her a teaspoonful of Epsom salt at one dose. If that does not materially reduce the contents of the crop within 24 hours it will have to be washed out. Get a piece of small rubber hose about two feet long, the size that is used on an ordinary family fountain syringe. Insert the point of a small funnel into one end of the rubber tube. Grease the other end of the tube with vaseline and insert it gently down into the crop through the mouth. The tube should be inserted about six or seven inches in an average size hen. Then raise the funnel above the bird's head

and pour a teacupful of lukewarm water into the funnel and down into the bird's crop, if it will hold that much. As soon as the crop is full lower the bird's head and pull out the rubber tube. Have a helper hold the bird with head down, while you gently squeeze on the crop and work out all the water and as much of the contents as you can. Repeat the operation three or four times if necessary to remove the sour contents of the crop. You may occasionally strangle and kill a fowl by this treatment, but not often. The after-treatment consists of feeding lightly on easily digested feed.

ROSE CHAFER POISONING

Rose chafers or rose beetles are very poisonous when eaten by chickens, especially the young birds. Eating just a few of these beetles is enough to cause death.

SYMPTOMS. Birds usually show signs of poisoning within one hour after eating the beetles, and death often occurs within an hour after the first symptoms are seen. The birds become sleepy, weak in the legs, and often fall over on their sides. Convulsions sometimes occur.

PREVENTION. Treatment is of little value due to the rapid action of the poison, but prevention can be carried out by keeping the chickens away from rose bushes, grape vines, and shrubbery when the insects are prevalent. These bushes should be sprayed to kill the beetles, which usually appear in late May or early June.

NUTRITIONAL ROUP

Vitamin A Deficiency

Nutritional roup is a disease which resembles infectious roup or common colds, but is caused by a deficiency of vitamin A in the ration. It may affect birds of any age, although young birds are most susceptible.

SYMPTOMS. Many of the characteristic symptoms of roup and colds are present. There is a discharge from the nostrils and eyes, swellings beneath the eyes, and a staggering gait. There may be ulcers in the mouth.

TREATMENT. A ration should be fed which is rich in vitamin A. An abundance of green feed is very necessary and should not be neglected, so give the fowls plenty of green feed if it is available. See that a good grade of yellow corn and corn meal constitute a good percentage of the ration. Thoroughly mix 1 quart of standard grade cod liver oil with each 100 pounds of mash feed and keep this before the birds all the time in hoppers. Only a few birds may show symptoms at first, but most likely all received the same ration and have the same deficiency. So put the entire flock on the vitamin-rich ration, to try to avoid other cases.

In addition to the diet rich in vitamins, as outlined above, the "roupy" symptoms may be treated locally with Dr. LeGear's Poultry Inhalant and Poultry Antiseptic Tablets, as described for roup (see "Roup", page 28).

RICKETS

Leg Weakness — Vitamin D Deficiency

Rickets or leg weakness is a nutritional trouble of growing chicks, caused by feeding a ration that is lacking in vitamin D, calcium, or phosphorus. All three of these are vital to normal growth and bone development.

SYMPTOMS. The chicks apparently are in good health, but have a weak, unsteady gait which develops into difficulty in walking, and they are found sitting all of the time. The joints are often swollen. The appetite at first seems good but soon becomes irregular, the chicks lose

flesh rapidly, and soon die unless treated promptly.

Vitamin D deficiency in adult hens results in thin-shelled or soft-shelled eggs, lowered egg production, and reduced hatchability.

TREATMENT. Mix one quart of cod liver oil in each 100 pounds of mash, and let the chicks eat all they will of it. This is a reliable source of vitamin D. Add Dr. LeGear's Poultry Prescription to the mash feed according to directions (see page 24), for its valuable content of calcium and phosphorus. Include an abundance of alfalfa meal made from sun-cured alfalfa, or certain types of fish meal, which also are rich in vitamin D.

Direct sunshine is the finest natural source of vitamin D, and can prevent rickets or leg weakness. The sunshine must come directly on the chicks, and not even through glass. Either get the chicks out of doors and into the sunshine or remove the glass windows so the sun will shine directly on them, even if only for 30 minutes a day, or longer.

CRAZY CHICK DISEASE

Vitamin E Deficiency

This disease occurs in young chicks, three to four weeks or older. It is caused by a deficiency of vitamin E in the ration. A very similar disease, which shows many of the same symptoms and cannot easily be distinguished from crazy chick disease, may be caused by a lack of vitamin B₁ (thiamine).

SYMPTOMS. Symptoms may include progressive paralysis of legs and wings, muscular incoordination, walking in circles, falling down, and turning in cartwheels, retraction of the head, or trembling and jerking of the limbs. There is a loss of appetite, stunted growth, and emaciation. The symptoms are followed by death if the condition is not cor-

rected promptly.

TREATMENT. Change the diet of the chicks, avoiding too much protein and giving plenty of whole grains, bran, skim-milk, molasses, and green feed.

CURLY TOE PARALYSIS

Vitamin G (Riboflavin) Deficiency

Curly toe paralysis in chicks is the most outstanding result of a deficiency of vitamin G (riboflavin) in the ration, but lack of this vitamin may also produce other disorders. It is often associated with a shortage of other members of the vitamin B complex.

SYMPTOMS. In chicks the toes become curled under in a cramped position, so that the birds flounder about and are unable to stand. Growth is slow, and a diarrhea develops early. The skin breaks out in turkey poults, and sometimes also in chicks. In older birds egg production is decreased, and the eggs are of low hatchability.

TREATMENT. See to it that the ration contains feeds rich in vitamin G, including either fresh or dried milk, alfalfa or alfalfa meal, cane molasses, and green grass.

PEROSIS

Slipped Tendon — Manganese Deficiency

Perosis or "slipped tendon" is a deformity of the leg bones, which results in complete crippling of one or both legs. In some cases the breast bone is also affected.

CAUSE. Perosis is due to a deficiency of manganese in the poultry ration. This trouble has become more prevalent in recent years in flocks throughout the country, particularly among chicks grown in confinement. While chicks on range usually pick up plenty of green feed containing enough manganese to prevent perosis, those on rations high in corn and low in wheat products and green feeds frequently suffer from this disease.



Fig. V PEROSIS (SLIPPED TENDON)

SYMPTOMS. The bones in the region of the hock joint become enlarged and deformed, crippling the joint and causing the tendons of this region to slip out of place. As a result the bird is unable to stand or walk on the affected leg, and sits on its hocks. The breast bones may also be affected. (See Fig. V).

In addition to producing perosis or "slipped tendon," a shortage of manganese in the ration may be responsible for other troubles. This valuable element has been found to be essential to breeders, a lack of it resulting in eggs low in hatchability and sometimes containing deformed embryos. It is also necessary for proper growth of baby chicks. Pullets are reported to lay more eggs if they receive ample manganese than if they are deficient in this element.

PREVENTION. Perosis or "slipped tendon" may be effectively prevented by supplying the birds with manganese in proper amounts, and this may be done easily, effectively, and economically by giving them Dr. LeGear's Poultry Prescription in all of their mash feed. A sufficient dosage of manganese is included in the formula of this valuable tonic to supply an ample amount of this important element to satisfy all requirements for manganese, in growing chicks and pullets, laying hens, and breeding stock. Perosis is not seen in birds receiving Dr. LeGear's Poultry

Prescription regularly according to the directions on the package.

GOUT

Gout is a nutritional disease caused by large deposits of urates, (the white, chalk-like matter that is usually seen on the outside of the droppings), on the internal organs or the leg joints. This condition is usually the result of feeding excessive amounts of high-protein concentrates, a lack of green feed, or bad kidneys. It is seen chiefly in mature or old birds.

SYMPTOMS. Deposits of urates on the internal organs, such as the heart and kidneys, result in poor appetite, sluggishness, anemia, and diarrhea. When the joints are affected they are swollen and painful, and the bird is lame. These swellings may break like abscesses.

TREATMENT. Reduce the quantity of meat scrap and other proteins and increase the amount of green feed. Treat enlarged joints locally by opening and draining them. Avoid giving a diet too high in protein to young birds or birds laying poorly.

BUMBLE FOOT

The term "bumble foot" is applied to any swollen or inflamed condition of the feet of fowls. Bumble foot is seen frequently in heavy fowls that sleep on high roosts or in trees. Jumping to the ground each morning bruises the bottoms of their feet and causes the ailment. It may also be caused by sleeping on perches that are too narrow and sharp, or from something penetrating the bottom of the foot, as a thorn, splinter, piece of glass, or the like.

SYMPTOMS. More or less swelling, lameness, and soreness is always present. At first there may be only a slight swelling and inflammation, which may steadily increase until an abscess forms in the bottom of the foot or between

the toes. Sometimes a hard corn-like substance is found on the outside of the skin at the bottom of the foot.

TREATMENT. If the swelling is hard and painful, apply warm poultices for a few days to draw it to a head or until pus forms. Then it should be opened freely with a sharp knife and all the pus removed. Syringe out the cavity with a weak solution of Dr. LeGear's Dip and Disinfectant, as directed, and dust it liberally with Dr. LeGear's Anti-septic Powder. Keep the fowl in a clean place, with plenty of clean straw on the floor, or bandage the foot to keep the wound clean. The foot should be treated and the bandage renewed every two or three days until healed.

Remove the cause if possible, by lowering the roosts or putting plenty of litter on the floor for the fowls to jump on to. Also see that the perches are smooth, and at least an inch and a half wide.



Fig. W—CROOKED BREAST BONE

CROOKED BREAST BONES

There are many theories as to the cause of crooked breast bones in chicks, but in most cases it is believed to be due to roosting too young on perches that are too narrow or round, or to an insufficient amount of bone-forming materials or an otherwise improper diet.

The breast bones of young chicks or pullets are compara-

tively soft, and if they are permitted to sleep on roosts that are narrow or round when they are quite young the weight of their bodies on their breast bones night after night may cause the bones to bend over and grow crooked. Roosts for chicks and poults should be flat, and two or three inches wide. Narrow boards on which chicks might sit during the day should not be allowed about the brooder house or yard.

Care must also be taken to see that growing birds have sufficient minerals in proper proportion to insure strong, straight bones. Dr. LeGear's Poultry Prescription mixed with good feed will furnish all of the minerals ordinarily needed.

EGG BOUND

This is a condition where a hen wants to lay an egg but cannot. It is most commonly found in hens in heavy production, and most frequently in old hens. It can be caused by an obstruction such as a tumor, or by eggs that are too large, as double-yolked eggs. Egg bound is not a very common trouble.

SYMPTOMS. The hen will be noticed to go on the nest frequently and strain violently, but lay no egg. She appears listless, and goes around with her tail dropped. The egg may be felt by inserting an oiled finger carefully so as not to injure the parts.

TREATMENT. Hold the rear portion of the hen in a pan of warm water for half an hour, or hold her vent in the steam of boiling water for a few minutes, to relax the parts. Then carefully inject a small quantity of sweet oil into the vent, and with gentle pressure try to assist her in passing the egg. If this fails you may have to insert an oiled finger and break the egg, to let the contents pass. If you do this try to remove all of the egg shell.

Give the hen one-half teaspoonful of Epsom salt, and repeat the dose in five days. Feed her green feed and soft feed for a few days. If the hen is overly fat reduce her grain feed for several weeks and make her exercise.

BLOW OUT

Prolapse of the Vent

This condition is usually caused by birds attempting to lay eggs that are too large, such as double-yolk eggs, or by some inflammation of the intestine such as that caused by worms or coccidiosis.

Clean up the protruding parts, and put the bird in a clean place by itself. If the condition is not too severe and the bird is not bothered and pecked by other birds a recovery will usually follow.

On the other hand, this condition often leads to a form of cannibalism, with the attacking birds picking a prolapsed bird to death. (See "Cannibalism" for method of prevention.

CANNIBALISM

Toe Picking — Feather Pulling

This is a "bad habit" of poultry, and occurs chiefly in young chicks grown in confinement, under crowded conditions. The trouble usually starts with an injury to one of the toes causing a slight flow of blood. The other

chicks see this, taste the blood and soon pick off the wounded toe, often killing the chick. In this way a vicious habit is started, which often is hard to break. Similar conditions may get the birds started at pulling feathers from other chicks. Older birds also occasionally have this habit (see "Blow Out"), with serious losses resulting.

PREVENTION. Since overcrowding is one of the main causes of this condition the flock immediately should be given ample room. All wounded birds should be removed and isolated until well, and the worst "pickers" should be discovered and disposed of. See that the birds have an ample supply of a well balanced feed, with sufficient protein and plenty of minerals. Whole oats kept in a hopper have proven helpful according to some investigators. Hanging vegetables within easy reach of the birds will keep them busy and help in the control of Cannibalism. Keep the nests dark, the litter deep, and in bad outbreaks the windows can be painted red to disguise the color of the blood from wounds. Many mechanical devices, such as beak guards and vent guards, are available.

All wounds should be dusted with Dr. LeGear's Antiseptic Powder, to protect the raw areas from germs and flies and permit rapid healing.



Fig. X — CANNIBALISM



Fig. Y — RESULTS OF CANNIBALISM

REFERENCE CHART OF POULTRY DISEASES

DISEASES	SYMPTOMS	PAGE
ASPERGILLOSIS (Brooder Pneumonia)	Usually affects young birds. Rapid, difficult breathing, with characteristic rattling sound. Birds are dull and listless and appear exhausted.	31
BLACKHEAD OF TURKEYS (Enterohepatitis)	Usually affects young poults. Poults show a humped appearance and usually stand alone away from the flock, with feathers ruffled and wings drooped. Rapid loss of weight, and weakness. Diarrhea, with droppings light green to sulphur color.	35
BLUE BUGS (Chicken Ticks)	Paleness of comb and wattles. Loss of egg production, a despondent attitude. Occasionally find young birds dead.	38
BUMBLE FOOT	Birds show some lameness. A large, hot, painful swelling is found on the bottom of the foot.	43
CHICK BRONCHITIS (Infectious Bronchitis)	Young birds only are affected, in most cases. Gasping and stretching the neck, showing difficulty in breathing. Usually a rattling in the lungs and a mucous discharge from the nostrils. Highly fatal.	28
COCCIDIOSIS	Usually young birds are affected. Chicks become droopy and dispirited, feathers ruffled and dull, they huddle together, and the appetite falls off or ceases. Birds grow light, and appear weak. Diarrhea is usually present and often, although not always, blood-tinged.	34
COMMON COLDS (Simple Catarrh)	A watery discharge from the nostrils and sometimes from the eyes. Birds may sneeze and show difficulty in breathing. Loss of appetite, and drooping attitude.	29
CURLY TOE PARALYSIS (Vitamin G Deficiency)	Toes of chicks become cramped and curled up. Birds are unable to stand. Breaking-out of skin, especially in turkey poults. Slow growth, and diarrhea.	42
FLU (Laryngotracheitis)	Birds any age may be affected, but older birds most susceptible. Peculiar, characteristic stretching of the neck and gasping, with bird in a crouching stance. Rattle in the lungs, and mucus around the nostrils.	28
FOWL CHOLERA	First sign of this disease may be fat hen dead on nest. Other birds start with bad diarrhea with yellow or green droppings. Sick birds show great thirst and little appetite. The comb and wattles are pale or dark purple, feathers rough and ruffled.	20
FOWL PARALYSIS (Leucosis)	Usually occurs in birds four to ten months old. Lameness in one or both legs, sometimes wings are paralyzed. Birds show rapid loss of weight, even with good appetite. May have diarrhea. Blindness and deformed pupils with gray cast to eye may be present.	30
FOWL POX (Sore Head — Canker)	Most prevalent in young birds. A number of eruptions on comb, wattles, ear lobes, and sometimes other portions of body. These start as yellow blisters, become brown, dried masses. Ulcers and cankers in mouth and throat sometimes found.	22

REFERENCE CHART OF POULTRY DISEASES

DISEASES	SYMPTOMS	PAGE
FOWL TUBERCULOSIS	Affects chiefly birds one year or older. Birds lose flesh, show extreme weakness, with pale comb and wattles, and sometimes lameness.	21
FOWL TYPHOID	Symptoms similar to Cholera. Loss of appetite with droppings soft, yellowish, or greenish. Birds usually have pale comb and wattles, except in acute cases when they may be dark. Inside of mouth and vent usually very pale.	21
LIMBER NECK (Botulism)	Usually affects several birds in flock. Neck is paralyzed with head hanging down to the ground. No matter in what position bird is held the head hangs straight down. Neck feathers are very easily removed.	28
NUTRITIONAL ROUP Vitamin A Deficiency)	Symptoms similar to roup. Running of eyes and nostrils. Eyes swollen and inflamed. Nostrils often completely closed with mucus. Ulcers sometimes found in mouth.	41
PEROSIS (Slipped Tendon)	Deformity of leg bones, causing lameness in one or both legs. Affected legs are constantly bent at the hock, and the bird cannot stand.	42
PULLORUM DISEASE (Bacillary White Diarrhea)	Usually shows up in two to five days after hatching. Affected chicks are droopy and dispirited, and have a white diarrhea which often pastes up the vent. Chicks are potbellied, show evidence of pain, gasp for breath, and usually die in a few hours to two days.	19
RICKETS (Leg Weakness — Vitamin D Deficiency)	Weakness of the legs, usually showing deformed and enlarged joints. Chicks usually have a good appetite at first, but soon go off feed, lose weight and die.	41
ROUP (Sinusitis — Infectious Coryza)	A sudden severe cold, with increased temperature and a thick, cheesy discharge from the nostrils, with a very disagreeable odor. Eyes usually swell shut, and breathing is very difficult. Sneezing is often noticed.	28
SCALY LEGS	A slight lameness, with roughening of the skin of the legs. The legs finally become very sore, enlarged, and the scales of the shanks are thickened.	39
SIMPLE DIARRHEA	Bowel discharges loose and off-color. Vent may be pasted up. Usually some loss of appetite, sluggishness, drop in egg production, and weakness.	39
VENT GLEET	Ugly, filthy sores and ulcers in and around vent. Discharge from vent is at first watery, then thick and white, with bad odor.	32
WORMS IN POULTRY	Droopiness, loss of appetite, drop in egg production. Unthrifty, unkempt appearance. Comb and wattles pale. Sometimes lameness or blindness with "gray eye" as in Leucosis.	32

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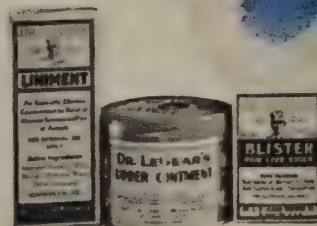


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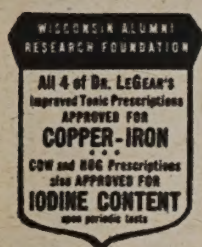
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- 4 lb. 8 oz. package
- 15 lb. package
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Poultry Worm Powder

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- Package of 50 Tablets
- Package of 120 Tablets
- Package of 500 Tablets

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- Concentrated
- 4 oz. bottle
- Also qt. and gal. bottles

Antiseptic Oil

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- 6 oz. bottle

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- Per Capsule, or
- Package of 48 Capsules

Pig Capsules

- Per Capsule, or
- Package of 48 Capsules

Horse and Mule Capsules

- Per Capsule, or
- Tin of 25 Capsules

Colt Capsules

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- Tin of 25 Capsules

Flatulent Colic Medicine

- 4 oz. bottle

Blister

- 2 oz. jar

Gall Salve

- 2 oz. can

Nicotine, Kamala Pills

- Adult Size
- Envelope of 50 Pills
- Package of 1,000 Pills
- Chick and Pullet Size
- Envelope of 50 Pills
- Package of 1,000 Pills

Dip and Disinfectant

- 8 oz. bottle
- Also qt. and gal. cans,
- and 5, 30, 50 gal. drums

Antiseptic Powder

- 1 3/4 oz. can
- 4 oz. can

Calf Vitamins

- Per Capsule, or
- Package of 100 Capsules

Liniment

- 2 oz. bottle
- 6 oz. bottle

Fly Chaser

- Quart can
- Gallon can
- Also 5, 30, 50 gal. drums

Copper-Iron Tablets

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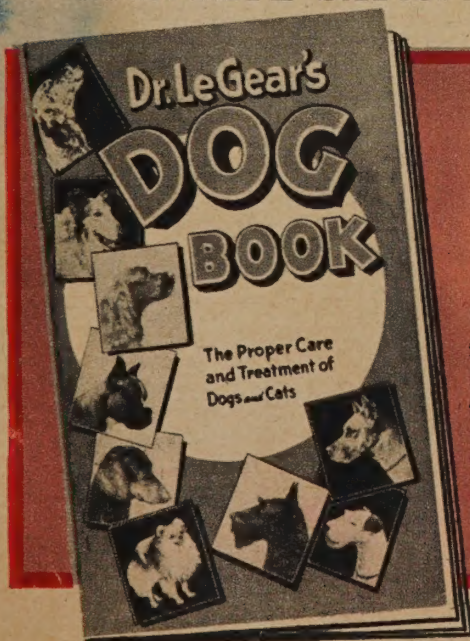
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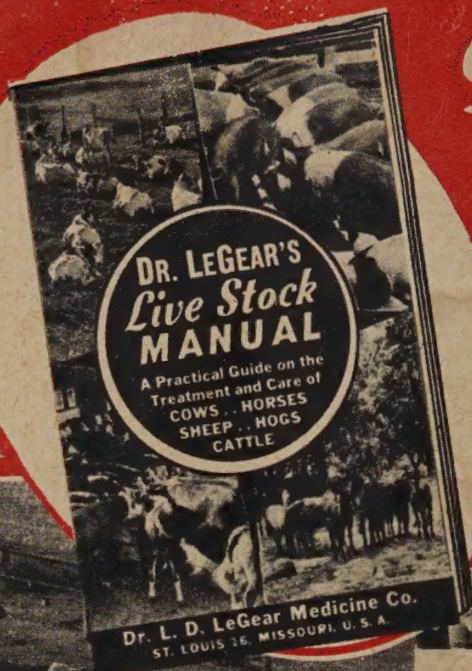


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